

THE CULTIVATOR

THIRD]

TO IMPROVE THE SOIL AND THE MIND.

[SERIES.

VOL. X.

ALBANY, N. Y., NOVEMBER, 1862.

No. 11.

PUBLISHED BY LUTHER TUCKER & SON

EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

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TERMS—FIFTY CENTS A YEAR.—Ten copies of the CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Five Dollars.

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The Cultivator & Country Gentleman.

AGRICULTURAL DISCUSSIONS

AT THE STATE FAIR AT ROCHESTER—FIRST EVENING.

Insects---Grain Aphis, Wheat Midge, &c.

Dr. ASA FITCH opened the discussion by a short lecture on the grain aphis. He stated that it had existed in Europe from time immemorial—it was described by Fabricius 81 years ago—but most of the early accounts were quite imperfect. Its existence between harvests, and its hiding place at that interval, was entirely unknown until traced out within two years in this country. Dr. F. then gave an account of its successive ravages. This year it has moved westward—it has measurably disappeared at the east. It has no doubt existed here for many years, but in small numbers and thinly scattered. Although Aphides are known to multiply rapidly, yet we have no instance of such rapid multiplication known, as has been exhibited by the grain aphis in the past and present year. This insect resembles the cabbage lice in its general character—sucks juices from the wheat plant, and thus abstracts nutriment from the crop. It needs no wings except to pass from one field to another, and we accordingly find these furnished it only late in autumn when about to migrate. A curious change takes place in these insects in summer—when they feed early in the season on the green blades, their color is of a grass green; but as soon as they begin to partake of the finer and richer food of the kernels, their hue changes to a fine rich yellow; and the parent insect has been known to bring forth brood exhibiting this change within the space of two or three days. Dr. F. in describing its habits, showed the fallacy of the occasional notion that small insects could be of spontaneous production—and mentioned the curious fact that aphides generally lay eggs at one time of the year, and bring forth young at another. In the early part of the year, the female brings forth perfect insects only, and without access to the male; and at this time all are females. Towards winter, males are

produced and eggs laid, which remain through winter. This is the usual course with aphides generally. But the grain aphis is an exception to this remarkable rule. Dr. F. has found that this insect produces young, and not eggs, the whole year through; they are left to freeze on the wheat stalks as winter approaches, and thaw into life again the next spring. And as other aphides need no males to enable them to produce young, (whose eggs are not laid,) he does not know but the grain aphis may thus go on and produce the young female perpetually. This point needs further investigation. These insects produce four young at a time, and will nearly double their progeny in a single day—and thus increasing, a single female will have two million descendants in twenty days if all survive—a sufficient explanation of the enormous increase at harvest time. Several insects, the natural enemies of this aphis, were next mentioned, which serve to reduce its vast numbers.

In answer to an inquiry of GEO. GEDDES, Dr. F. described the lady-bug, one of these natural enemies, and stated that it never committed any injury to crops.* There are many species of this lady-bug, or Coccinella. G. Geddes said he had a crop covered with the aphis the past season, and they all suddenly disappeared, when on examination the crop was found covered with lady-bugs. T. C. PETERS inquired if Dr. F. thought the aphis likely to prove a permanent evil; he replied he thought not, that it would probably only occasionally, and during unusual years, get the better of these other insects which destroy it.

Dr. F. also gave it as his opinion, in reply to a further question, that the wheat midge will be likely to prove a formidable foe to the farmer, whenever the weather may be favorable to its increase. In dry seasons, and in dry localities, the fly cannot lay its eggs so abundantly; but on wet places and in wet seasons its destructive effects may be expected. He also stated that in order to prevent the depredations of the midge, Hessian fly, and other similar insects, it is necessary to give the crops a fertile soil, so as to make a strong growth—while on a poor crop it will not withstand their assaults.

G. GEDDES said he had been accustomed to take what Dr. FITCH said as a truth; but he could not help thinking he was mistaken in this matter of the midge. In 1846 the midge was exceedingly destructive—he totally lost 70 acres that promised an abundant harvest. Now, for five years, he has had good crops—the midge has done him no material harm, notwithstanding the varying seasons in these later years. He admitted that he now gave better

* He thinks however that swine have been injured when they have eaten these lady-bugs in excess—as the latter are covered with an acrid substance, as a defence.

cultivation, and farmed better, than then. He now raises Soule wheat, without seeing a midge in it; last year had 16 acres, and none was discovered; but he has nearly given it up, because the Mediterranean is so much more productive that it pays better, even at a reduced price. T. C. PETERS thought Dr. FITCH correct, so far as practice exists among farmers generally—he thought that the general practice of raising the Mediterranean was the reason that the midge had diminished.

An experienced flour manufacturer (KEMPSHALL of Rochester,) said that the "white wheat" had evidently much degenerated of late years, [as it may by successive growth from seed,] and the only way to restore it, in his opinion, is to change the seed. He had almost given up the idea of ever getting good white wheat again. He found Mediterranean wheat to improve every year; it "bleaches out"—and at the present time, he would rather have the flour of Mediterranean than of white wheat. One sort had improved, while the other had deteriorated.

Prof. DEWEY expressed his grateful thanks for the exceedingly interesting lecture of Dr. FITCH, containing as it does, satisfactory indications of great labor and patient research, and conferring a lasting and great benefit upon the country at large, for the facts it has developed.

It was stated by several present that early sown and early ripening wheat was more likely to escape the midge; while some remarked that this rule should be reversed for spring wheat, which should be sown late.

G. GEDDES wished to put a question to Dr. FITCH—Why, if the midge increased at first, it did not *continue* to increase—instead of going away as it now evidently is doing? Dr. FITCH did not admit that it was passing away, but thought that during some seasons it was more abundant and destructive than others—he had known it in former seasons to nearly pass away apparently, not really, but afterwards to return from its lurking places in destructive force, and he feared this would be the case in the instance referred to in the question.

G. GEDDES alluded to the fact that *early* wheat was more apt to escape its ravages, and that this was a prominent reason that the Mediterranean wheat escaped. A farmer from Seneca county, differed from the expressed opinion of some others, as to the value of white wheat—many in that county were returning to its culture, and were successful—they were decidedly of the opinion that the midge there was passing away.

T. KEMPSHALL of Monroe Co., stated that the "Genesee Flour" had deteriorated in character, and the fact could not be disguised—his own experience as a flour manufacturer, had taught him this at his cost—the white wheat of which it was made, had "run out,"—lost its quality. G. GEDDES asked why millers were willing to pay a shilling more per bushel for white wheat, if it was not so good?

T. KEMPSHALL replied that many millers would not—others thought it would yield rather more flour—while others wanted it to whiten up such as was dark colored. L. F. ALLEN had found that at Buffalo the white wheat was always the highest priced—the Kentucky white wheat sells there for \$1.30 per bushel—Ohio white wheat a little less—red wheat 10 to 15 cts. lower—spring wheat still less. Bakers will pay a dollar more per barrel for white wheat flour, because it will absorb more water, and make more bread than any other flour. He corroborated the statement of others, that late sown spring wheat was more likely to escape the midge. He said that depredators

were singularly influenced by causes that controlled their increase—a few years ago they were overrun by field mice—"you could hardly turn over a chip, but what there would be a mouse under it." The next year they were all gone. He thought many of these things "beyond our ken." Still he thought the introduction of new varieties might be useful.

Second Evening---Draining.

After A. B. CONGER, chairman of the meetings, had offered a series of propositions, embodying the substance of last evening's discussions, GEORGE GEDDES opened the discussion for this evening on *underdraining*. He said his principal object was not to impart instruction, but to bring out information from others. He alluded to the physical condition of the locality of Rochester—the condensation of moisture from the lake at this place, in producing frequent showers, as shown by meteorological tables. At Lewiston, out of the prevailing range of winds from the water, much less is found to fall. The water that falls is carried off from the ground by streams, and by evaporation from the clouds—and thus a perpetual round is going on. About three-fourths of this water is found to pass off by evaporation; nearly one-fourth by streams; leaving a small portion to disappear in some unknown way. Perfectly dry earth, will receive and hold seven inches of water to every foot in depth, without its running off. If a soil should be plowed three feet deep, it would hold 21 inches like a sponge. This is the reason that trenched soils hold so much without becoming overcharged, or becoming soon dry. A well pulverized soil is one quarter interstices or air, if the soil is dry; but these will be filled with water, if the soil is wet. In the best condition for growth of plants, these interstices hold air, and the particles of earth themselves are filled with moisture. An excess of water has been found to reduce the temperature $6\frac{1}{2}$ degrees in summer—or equal to an elevation of two thousand feet or five degrees of latitude. The speaker then added, "now, gentlemen, if you wish to carry the soil of Rochester five degrees further South, you must underdrain thoroughly." To ascertain if soils need underdraining, observe if water stands in post holes; or if frost is most destructive in low places. The importance and advantages of underdraining were then pointed out by some striking examples—one case had just come to hand, where a landowner obtained $3\frac{1}{2}$ tons of hay per acre, where before he could not obtain more than one ton. The speaker then went on to describe the different modes of laying drains, and showed the importance of doing the work right. He himself had *cut many ditches without draining his land*, not then understanding the stratification of the subsoil. In order to understand the work well, he recommended farmers to study the works which had been written upon the subject.

T. C. PETERS of Genesee Co., said that if draining were carried out judiciously and thoroughly, it would alone increase the products of the State one-third—that there is but little land in the State that may not be greatly benefitted by underdraining. In extensive regions it makes the difference of at least one hundred per cent. The coarse or aquatic grasses indicate the want of drainage; and to remove this water, and bring the temperature, as had just been stated, down to a level 2,000 feet lower, the advantages could be hardly estimated. He thought one of the best things the State Agricultural Society could do was to encourage the general adoption of underdrain-

age—to make it an important object for its labors for several years to come.

H. T. E. FOSTER of Seneca county, said that JOHN JOHNSTON had cut his drains about $2\frac{1}{2}$ feet deep, and 2 rods apart. Both he and ROBT. J. SWAN had found it of great importance, wheat crops having increased to 40 bushels per acre. He commended the practice of farmers drawing a distinct and accurate map of all their drains, that they might in future know precisely where to tap them. He said J. Johnston preferred drawing tile several miles to making stone drains with stone at hand. In reply to a question, he said that without draining manure was nearly thrown away, which was one reason that good crops could not be obtained without this practice.

SOLON ROBINSON requested T. C. Peters to point out the kinds of soil most benefitted by underdraining. The latter said that, with the exception of Long Island, there was hardly a locality in the State that did not require it. He gave the rule already mentioned, of digging trial holes, in order to observe when the water would stand, and where in such cases underdraining is always needed.

G. GEDDES mentioned the case of a distinguished farmer of Westchester county, (SAMUEL FAILE,) who had gone among the old farmers in that county and very thoroughly tile drained a large farm, that before was not really worth anything for cultivating, that now had really astonished the old farmers there, and was actually worth \$200 per acre.

H. T. BROOKS of Wyoming, expressed his surprise that no qualification was made for the different circumstances of farmers. In Wyoming county, the place of his residence, it would not pay, and he would give one thousand dollars to any one who would find a farmer that would buy a drained farm at its increased cost. A reply was made by a gentleman present, who had laid some 15 miles of tile within a few years, who said that it cost about \$30 per acre to do it, and that the cost was always paid for within three years by the increased crops. He thought that if soil was tenacious enough to hold manure well, it would always need draining. He said that farmers might adopt poor husbandry, even on drained land, but that good farmers would find the operation in most instances absolutely essential to success. He recommended poor cultivators, who thought draining too expensive, to sell a portion of their lands, and drain and give good cultivation to the rest.

G. GEDDES asked if there was any one present who had practiced underdraining, that had lost money by it—if so, he would please to speak, now, on this occasion? No one answered.

—BAKER of Steuben county, being called upon by H. T. Brooks, said that his land was very similar to that of Mr. Brooks, but that his experiments in underdraining had led him to very different conclusions—he had underdrained land that was worth about thirty dollars per acre, and increased its real value to over one hundred dollars per acre—in some instances to one hundred and fifty dollars per acre. This land he uses for raising sheep and grass. The audience now became somewhat excited, when Solon Robinson inquired “if this Mr. Baker was really the Mr. Baker that Mr. Brooks intended to call up in his favor?” when the latter admitted that he was—but he thought that for *hill* land draining would not be profitable. T. C. Peters thought that the object of his friend, Mr. Brooks, was to call out discussion—and he described the many localities, even on hill land, where the wetness

of the soil had caused the growth of coarse wet grasses, and where the operation would double or triple the value of the soil. He admitted, as he had done before, that there might be much land that did not need it. But he did not think there was a farm of a hundred acres in the whole of Alleghany county, some portions of which, at least, would not be benefitted by draining.

Third Evening—Fences, &c.

A. B. CONGER, chairman, briefly summed up the leading points reached by last evening's discussion on underdraining, the substance of which was given in our report of that discussion. The subject for the present evening was

Fences and Cattle Law of New-York.

T. C. Peters opened the discussion. He had obtained the statistics he was about to present, during four years extensive travel throughout the state. He alluded to the great importance of providing fencing for the future—old fences were decaying, and new ones would be needed, and we should have to adopt more nearly the practice of European countries. He assumed a mile of highway to each square mile of land—which is probably far within bounds. There are 28 million acres of land—of this about 16 millions are improved and 10 millions unimproved—the remaining 2 millions probably is villages, &c., according to several authorities cited. According to his estimate there were about 28,000 miles of highway in the state, or 56,000 miles of road fence. The cost of road fence he placed at a dollar a rod—the capital required to keep up the fence, another dollar at interest. The total annual cost of keeping up road fences, is over two million dollars, or nearly one half the entire state tax.

The average size of farms over the whole state is estimated carefully at 100 acres each—these fenced in 10 acre lots, require 800 rods of fence on each farm—besides the cost of the waste land. The whole cost of all fences in the state, he figured at \$144,000,000. The annual interest on the fences on each farm is \$56—or \$28,000,000 are to be charged to the farmers of this state to keep up the fences annually. Yet all the taxes paid by by farmers is only 33 cents per acre,—the cities paying a large portion—yet the annual tax that fences occasion is *one dollar and twelve and a half cents per acre!*

A member present stated that he had made a careful estimate of the roads of the state from Smith's large new map, which gives every public highway, accurately laid down, and he made the amount about twice as great, or 60,000 miles, requiring 120,000 miles of highway fence.

The chairman (A. B. Conger,) in reply to an inquiry, said that the public had only the *right of way* on the land owned by private individuals—who really *owned* the land thus occupied. He then explained the present road law for the exclusion of cattle from the highway.

L. F. Allen thought that while in some districts, where there are substantial God-fearing farmers, this law might by some mutual agreement be carried out; yet throughout most of the state he believed it would be as much of a dead letter as the law against travelling on the Sabbath—and he mentioned some instances where “irresponsible vagabonds” had annoyed their better neighbors by taking advantage of this law; and the latter feared the threats of these vagabonds, should they enforce the law. He regards the present necessity of farmers to fence against intruders, as a most formidable evil, but he hardly knew how to furnish a remedy.

Dr. Thompson of Aurora, described the efforts of his neighbors in procuring the enactment of a special law, to exclude cattle from the streets of his village, which, with the determination of a number of land-owners, they had carried out and entirely excluded cattle and other animals. Their highways had become smooth grass plots, and now after the lapse of several years, it had become unnecessary to use gates,—and many of them had been removed from their hinges. So well pleased had the neighboring farmers become with these results, that the past winter they had asked for a similar town law, and this had led to the enactment of the state law now in force—they had in fact received in this way much more than they asked for.

Solon Robinson said a correspondent had proposed an amendment of that law, by which it should become the duty of the pathmaster to enforce the law and exclude the cattle, as a part of his duty in keeping the road in order. L. F. Allen replied by asking, "who made the pathmaster? Is it not the very men who, owning little or no land themselves, claim the privilege of breaking that law, by turning their unruly animals into it—would pathmasters thus manufactured be likely to enforce it?"

T. C. Peters said he thought the law much more generally enforced than Mr. Allen was aware of. He cited instances where years ago men had raised a cow and a horse, &c., in the road. They were cured of this practice by his leaving his road fences low on purpose, and then notifying them that the law would be rigidly enforced if the cattle intruded in the fields. The result, after some litigation, was successful; and as he was willing that they should procure the feed if they would take care of the cattle, they had as a consequence become scrupulously careful of his interests, by asking the privilege to keep his fences up for the sake of the feed. Under the *new* law he had succeeded in having it carried out, by promptness and energy, and by fearlessness of any threats. It was only in those neighborhoods where the inhabitants lacked back-bone that the law was trodden underfoot—where these owners of depredators perceived that their threats produced an effect. He thought it ought to be made the duty of pathmasters to enforce the law, and a fine be annexed to its neglect, so that they would have a sufficient excuse for doing their duty. He stated, in answer to a question, that there was no law to compel farmers to fence the highway.

Judge Warner stated a serious defect in the present law, in not providing for the payment of damages which cattle might commit in breaking into fields or enclosures. The officer should have power to assess damages on the sale of the cattle.

A member (name not heard) thought the law would never be enforced until street fences were removed, and he thought, perhaps, the Society should take some action with this view. Another member expressed his surprise that the gentleman from Erie, (L. F. Allen,) "who was six feet four or five inches high," should have any fear, as he expressed, of the threats of any one. D. M. Clark of Alleghany, said there were many in his county that had formerly been in the practice of street pasturing—one who owned 20 head, who had turned them into the road and hired out his pasture, had been induced to conform to the requisitions of the new law, and it has generally been carried out.

E. Cornell, President of the Society, stated some of his observations when in Europe. He had gone abroad favor-

ably impressed with *live fences*, but had returned with a different opinion—he regarded them as a very expensive fence, although they might be the best that could be introduced on the western prairies. In travelling through France, no fences were to be seen—cattle were sometimes observed feeding tied by a halter, but generally they were kept up. In France there were not enough fences to suit our wants; in England they had too much. In England premiums had been offered for the most successful eradication of hedges. The President had concluded that he had too much fencing on his own farm—he intended to reduce it one-half, and make his fields larger. In England the hedge evidently destroys the value of the land for several feet on each side, by the exhaustion of the roots, and the necessary trimming is expensive. He is satisfied that in this State we have a great deal more fence than is necessary, but he would recommend a gradual reduction in this respect.

T. C. Peters moved that the Society approve of the present road law—that it meets the view of the State Agricultural Society—and that it recommend and urge its enforcement. Carried nearly unanimously.

Col. Johnson, Secretary of the Society, was requested to state some of his observations in Europe, more particularly in relation to the great exhibition of the World's Fair. He said that notwithstanding the refusal of the American Government to appropriate any thing for facilitating the exhibition of American productions, every courtesy was accorded to American exhibitors that could be asked. When the juries, which were composed of the most intelligent men of all nations, declared the awards, all were astonished that out of only 95 American exhibitors, 83 received premiums! No other nation received any thing like this. As a proof of the immense extent of that exhibition, he stated that 26 acres—9 acres more than the great Exhibition of 1851—were densely filled with the choicest productions and objects. This exhibition showed a remarkable progress in ten years. Throughout nearly every part of it, indications were distinctly visible that American inventions, as shown in 1851, had been extensively diffused, modified, and adopted there. He mentioned a number of exceedingly interesting instances to show this result, and showed conclusively the most important results that would have been derived from a little governmental aid. Col. J. said that he was astonished to perceive the wonderful advancement in English agriculture within the last ten years—and it now indicated a high degree of perfection.

THE NEW-YORK STATE AG. SOCIETY.

Exhibition at Rochester, Sept. 28—Oct. 3.

Floral Hall and the Fruits.

It appeared to be universally conceded that no previous fair had ever shown so rich and varied a display nor so extensive a collection of Fruits as occupied three or four hundred feet of the wide tables that lined the interior of the spacious tent devoted to them. The number of amateur collections was very numerous, and a large share of them were of great merit. The "professional list" was not less so; the aim of the exhibitors was evidently not to throw together everything they raised, good and bad, but to exhibit only valuable sorts, grown in the best manner. Ellwanger & Barry's collections, eclipsed of course, all others; but some of the rest were worthy of all praise. Among the principal exhibitors of general

collections were J. M. Mattison, of Jacksonville, Tompkins county; W. B. Smith, Syracuse; and J. Donnelan & Son, W. King, Frost & Co., and C. J. Ryan, near Rochester. The collections of native grapes far exceeded anything previously shown; to these, large contributions were made by C. L. Hoag of Lockport; Hooker & Co., Seely & Co., Frost & Co., and Ellwanger & Barry of Rochester; and an especially fine collection of thirty sorts, some of great excellence and variety, by the Pleasant Valley Wine Company, Hammondsport, Steuben county. Fine specimens of the Adirondac grape were shown by J. W. Bailey of Plattsburgh, Clinton county. This new sort, which he thinks a seedling of the Isabella, possesses a good deal of the appearance and characteristics of its reputed parent, is nearly or quite free from pulp, and of a very agreeable and pleasant flavor. The bunches were good and handsome. Most persons would prefer it to the Isabella, although the latter when *fully ripe*, which is very rarely the case, is hard to excel. Some fruit raisers objected slightly to the Adirondac for being "watery," and not quite so marked in its flavor as would be desirable; but if as early as is claimed for it, namely, a month before the Isabella, it cannot fail to become a favorite.

The Floral department of this hall was admirably arranged—as was expected from the master hand of James Vick the Superintendent. The costly artificial temples of verdure seen on former occasions, gave place to the simple and refreshing arrangement of a natural garden. The leading features of this arrangement have been already mentioned in a former number of this journal, and we wish only to commend particularly on this occasion, the entire keeping in the union of moss-covered evergreen-lined tables for both fruits and flowers, rustic railing for bordering the alleys for spectators, and the fine apparently natural beds of large house-plants which were interspersed on the large grass plot in the central portion of the tent. The mode of constructing these beds was to place the plants together in close contact over the surface of the bed; line its exterior with curiously worn irregular stones of equal size, and entirely obscure the pots by a carpet of evergreen boughs.

About one quarter of the whole circle of flower tables was covered with a brilliant profusion from the untiring Mrs. Van Namee of Rensselaer Co., who has for so many years contributed largely to the floral display at the State fairs. One of the finest floral ornaments in this collection was a beautiful and simple basket, trimmed with evergreens and filled with flowers, with a delicate wreath entwining its handle—a far more tasteful object than the elaborate structures, shields, stars and other forms, made up stiffly of flowers themselves. There were several other collections of flowers of nearly equal merit, besides extensive ones from Frost & Co. and Ellwanger & Barry.

The Domestic Hall.

This fine permanent building was well filled with a miscellaneous collection of ingenuity and skill. It contained some objects of especial interest. One of the most so was a model of Ogden's machine for manufacturing cement pipe for drains and water pipe. This machine is likely to prove one of much value. The tile is made under a high pressure, giving them a very compact texture, regular form and finished surface. As the process of burning is obviated, the pipe may be made more cheaply than by the usual mode of burning clay. It may be also used instead of lead pipe for the conveyance of water underground, and of course at far less expense than lead. The machines

are expensive, costing a thousand dollars each, and one will make two thousand tile in a day. From the statement of the cost of manufacture, we infer that such pipes may be made for about two-thirds the expense of common earthen tile, while it is of better quality.

Standing beside this model was the admirable lime-light for locomotives, invented by Dr. G. H. Smith of Rochester. Common gas is used instead of hydrogen, and atmospheric air for oxygen—the orifices through which they pass being similar to those of a common compound blow-pipe. The light emitted is about fifteen times as strong as that of the common locomotive lamp. The gas is compressed in a reservoir of four or five cubic feet capacity, and reduced in bulk about ten times with a pressure of some 200 pounds to the inch, and when once filled will continue running eight or nine hours.

Daniel Sager of Greenbush, exhibited the model of a wagon-brake, which appeared to possess great merit. It is so constructed that when the vehicle descends a hill the brake instantly becomes self-acting, but *not* in *backing* the wagon. A cast iron block presses the tire of the wheel, and lasts till it is literally worn out, when it is at once replaced by another. The whole contrivance is both ingenious and simple, and may be attached to a common wagon at a cost of \$4 to \$6.

Fish's patent nursery or night lamp, is a new invention, possessing much convenience. It is simply a lamp, burning gas or kerosene, and heating a small boiler. A three quart reservoir is boiled at a cost of one cent. The water may be kept hot, and boiled rapidly at short notice by turning up the flame. It must be a fine thing for a sick room.

The Mica Lamp Chimney Co. of Syracuse, exhibited their lamp chimneys, which possess the several advantages of not breaking if allowed to fall, not cracking by heat, remaining unsoiled by smoke, and being easily cleaned. They are certainly valuable.

S. B. Dewey, Jr., of Rochester, exhibited a collection of kerosene lamps; among them is a small night lamp, of which we have tested for several weeks, and it is a perfect little contrivance of its kind—the flame being easily reduced to the size of a pin's head if needed, and readily regulated.

Hutchinson & Lyon of Cayuga, also had on exhibition an excellent contrivance for the perfect combination of kerosene in lamps—which even obviated the use of chimneys in some instances, and rendered simple the labor of trimming.

The rest of the contents of Domestic Hall exhibited industry, taste and ingenuity, but they do not need separate notices in a condensed report like this, and their variety may be understood by naming a few, such as furs, quilts, carpets, rugs, ottomans, sewing machines, penmanship, photographs, paintings, embroidery, clothes wringers, pianos, "native wines," preserved fruits, travelling bags and trunks, articles of dress, bedsteads, barometers, hats, models of bridges, hose, yarn, flannel, stocking-yarn, mittens, and Dewey's fine paintings of fruits and flowers for nurserymen and others.

The Dairy and Mechanics' Halls.

DAIRY HALL was not well filled. A few large and apparently excellent cheeses from Oneida county were the whole representation under this head. One of them weighed over half a ton. Most of the newly used cheese vats were in the hall—including the Oneida, Roe's, and others. A number of newly patented churns were ob-

served, but nearly all had the defect of too much complexity, while they did not appear to possess any decided advantage over simpler sorts. A similar objection, complexity, existed with some of the butter workers. The same hall contained a moderate exhibition of good vegetables—a good collection of grains and seeds, and several complex patent bee-hives. Another subdivision of the hall was occupied with a moderate collection of stoves and hot air furnaces, a number of water lifters, and a miscellaneous collection of mechanical contrivances, some of considerable interest and value. A simple, ten dollar root cutter, made by J. R. Robertson, Syracuse, appeared to be one of the best we have seen. A superb collection of cutlery was exhibited by D. R. Barton & Co. of Rochester. A new grain cradle, possessing some conveniences for adjusting and regulation, in connection with durability, came from Remingtons, Markham & Co. of Ilion. D. W. Seely of Albany, exhibited a good brick machine. A neat, compact and strong willow peeler was furnished by Easterbrooks of Geneva. Wm. Lines of Rochester had a compact and convenient coal sifter. Well made steam engines were contributed by D. A. Woodbury & Co., Rochester. Eames' Water Engine, of which some of our readers will remember a remarkable account in last year's COUNTRY GENTLEMAN, was also on exhibition. It possesses the power of elevating a stream of water to a height many times greater than the head which elevates it, by the simple reciprocating motion of a piston—and while it is extremely simple, it operates somewhat as a steam engine, only the head of water works it, in the same way that the head of steam drives in the steam engine. It is not unlike the water ram in its results, but operates with little or no waste of water. Without seeing it in actual operation we were disposed to think very favorably of it, and that it promises to be extremely valuable.

The Live Stock.

CATTLE.—The collection was moderate, but embraced some excellent animals. There were no extensive herds of *Short-Horns* on the ground. Among the exhibitors were Geo. Miller of Markham, C. W.; James O. Sheldon of Geneva; E. Griffin of Dutchess county; A. B. Conger of Haverstraw; Dr. George Phillips of Ogdensburg, who had many good animals; A. Stevens of Batavia; and C. K. Ward of Le Roy. The principal exhibitors of *Devons*, were Joseph Hilton of New Scotland; A. Stevens of Batavia; and A. B. Conger of Haverstraw. S. D. Hungerford, Brodie, Campbell & Co., and J. F. Converse, all had very fine *Ayrshires*. Erastus Corning, Jr., of Albany, as usual, nearly swept the board with his excellent *Herefords*—if we mistake not, he carried off all the premiums but one, which was awarded to John Hovey of Broome county.

One of the most interesting exhibitions on the grounds, was that of the skill of a young man by the name of Williams, from Jefferson Co., who without yoke, or any kind of harness or lines, preserved complete control of six young steers, driving them and working them through all kinds of evolutions, and almost literally doubling and twisting them, with scarcely ever speaking a word, and almost wholly by gentle signs of the whip or hand. Such perfect discipline and control, with never a loud word, furnished a strong contrast with the noisy vociferation with which some farmers think it necessary to drive oxen, accompanied by repeated blows of the whip.

The show of **SHEEP** was unusually fine and very extensive. The ranges of pens extended for about a quarter of a mile. Among the *Spanish Merinos*, were 35 fine animals from George Campbell of Vermont, which were not excelled by any in this class; the largest ram had sheared 20 lbs. one years' growth, last season, and 21½ lbs. this year. Pitts & Wiley of Honeoye, 52 head of the full blood Spanish, excellent animals. S. Hillman of Avon, 10 handsome rams of the Atwood Merinos. Wm. Chamberlain about sixty head of Spanish Merinos, over 40 of which were full blood,—in the hands of his excellent manager Carl Heyne. Among other exhibitors, we observed the names of Carl Heyne himself, W. L. Chamberlain, E. G. Cook, N. M. Dart, John Pierce, John Brown, E. N. Bissell, and others. A pair of large and fine Leicesters were exhibited by James Lawrie, Scarborough, C. W. Amos F. Wood, Jefferson Co., Jurian Winne of Albany Co., and Geo. Miller, C. W., several fine animals of the same breed. Brodie, Campbell & Co. had a large and excellent herd on the grounds. John Snell, Brampton, C. W., had 18 Cotswolds and 4 Leicesters; the two-year animals weighing about 320 lbs., and shearing 15 lbs.; the yearlings weigh about 270 lbs. James F. Converse and E. Gazley were prominent among the large exhibitors of excellent Cotswolds; and there were good ones from Cooper Sayre of Ontario Co. A half-dozen large and fat ones, bred by F. W. Stone of Guelph, C. W., and fattened and exhibited by W. M. Smith of Detroit, were stated to weigh 400 lbs. each.

Charles B. Meek of Canandaigua, had some excellent specimens of his Hampshire and Shropshire Downs. Geo. Betteridge of Riga, showed some good Cotswolds. Among the South-Downs, nothing of course could excel the splendid animals of Samuel Thorne; while some animals of great excellence were also shown by James O. Sheldon of Geneva, P. Lorillard of Fordham, A. B. Conger of Haverstraw, &c. Very fine Shropshire Downs were exhibited by J. Lorillard, and Hampshire Downs by A. T. Parsons. Among the exhibitors of Leicesters were C. B. Eastman of Jefferson county, and others.

SWINE.—There were many fine animals, but the exhibition was not quite equal to the extensive one last year at Watertown. Among the exhibitors of Yorkshires and kindred breeds, were Robert Ball, T. O. Jones, Brodie, Campbell & Co., A. C. Clark, and others. E. S. Hayward showed a fine herd with some mixed blood. James F. Converse an extensive herd of thorough-bred Yorkshires. A large and fine Essex boar was brought by R. B. & A. A. Underhill of Dutchess Co. T. T. Cavanagh exhibited a huge animal of the Yorkshire class, that was stated to weigh full half a ton.

POULTRY.—The exhibition of poultry was a fine one—two hundred feet in length were densely packed with cages of handsome and selected breeds. Among the prominent contributors were Heffron & Best and E. N. Bissell, who had many animals—and Lewis F. Allen, J. R. Page, D. P. Newell, E. P. Cheever, P. S. Clute, G. Westfall, W. King, and E. A. Wendell of Albany, all of whom had valuable contributions.

Implements and Machines.

The collection of these was extensive and valuable, and as was to be expected, was especially so in Mowers and Reapers, and in Horse-powers and Thrashing Machines—characteristics of the great grain-raising region in which the fair was held. In viewing the long lines of these ma-

chines, extending across the grounds, they suggested the immense importance at present attached to inventions of this character, furnishing, as they do, the only means by which the million farmers of the northern states can now carry on successfully the cultivation of grain, while so many laborers have passed from the plow to the battle-field.

The following list of exhibitors of horse-powers and thrashing machines, many of whom had several machines each, will show the extent and value of this part of the exhibition:—Emery Brothers, and Wheeler, Melick & Co., Albany; R. & M. Harder, Cobleskill; G. Westinghouse & Co., Schenectady; Birdsall & Brokaw, West Henrietta; Dow & Fowler, Fowlerville; J. M. Harvey & Son, Amsterdam; Lawrence & Gould, Troy; Hildreth & Co., Lockport; Perigo, Avery & Gould, Groton, and Fisher, Weiland & Co., Buffalo. Most or all of these machines indicated great excellence.

Among other machines on the ground, were Emery's cross-cut saw, La Tourette's tile machine, which screens the clay and makes the tile at one operation, and which was kept at work on the ground; valuable sectional cast rollers and clod-crushers, from Burrall of Geneva; a vibrating or dirt-shaking potato digger, which may prove valuable, from Wm. B. Ryan of East Pembroke; a fine collection of steel plows and cultivators from Remingtons, Markham & Co., Ilion; another collection of good and durable iron-frame harrows and cultivators, from J. Fink of Baldwinsville; and another collection from Whiteside, Bennett & Co. of Brockport.

The large collection of Mowers and Reapers will be noticed next week; but the newly invented Self-Raker attached to Kirby's Reaper, should not be overlooked. This contrivance is a very simple one, is moved by gearing, and appeared by an imperfect trial with straw, to do its work in a very complete manner.

There was a very good number of grain drills on the ground, and at first sight it would seem rather difficult to determine which one was really the best. Bickford & Hoffman, Macedon, N. Y., and P. Seymour, East Bloomfield, N. Y., exhibited each a combined drill, broadcast grain sower, seed sower attachment, and an attachment for sowing plaster, ashes, guano, or any other fertilizer at the same time. Mr. M. Downey, Springfield, Clarke Co., O., exhibited a combined grain drill, which, by the way, took the first and only premium, of a silver medal, which possessed many features which recommend it highly to every farmer who wants a good drill. The judges on this class of farm implements, who were all practical farmers, were guided by the *price* of the implement, its *simplicity*, its *durability* and its *convenience*. This last one would admit of the tubes being in a line or in a zig-zag position; the grass seed attachment was *behind* the tubes, which left the grass seed to be covered by the rain; the grain tubes were India rubber, instead of iron or zinc, which is quite preferable; and the *price* was nearly one-third less than the other drills. And, more than this, there was a land measurer attached to this drill, by which the teamster could see at a glance exactly how much ground he had passed over, and how much grain and grass seed also he is sowing per acre.

Ira S. Stanbrough, Newark, exhibited a hand seeding machine, with plaster sower attached, which is a genuine machine, and costs but little. We saw it in operation,

and it sowed cloverseed very evenly, and much faster and better than could be sown by hand. The plaster attachment, in our opinion, is superior to anything else that was exhibited in that line, considering the *price* of it and convenience.

J. Nourse & Co., Boston, Mass., exhibited a universal plow, with iron beam, having several different patterns of mold-boards, for different kinds of work, which appeared to possess quite as much merit as any other cast-iron plow on the ground.

Of horse hoes there were but two implements entered. Of these Milton Alden's horse hoe, or thill cultivator, took the first prize, \$8. There was, besides, a large variety of one-horse and two-horse cultivators, which were most excellent implements, well made, and of good style.

Mr. J. Fink, Baldwinsville, N. Y., exhibited a Union Climax Cultivator, which is a most superior implement, especially for working among potatoes, and for digging them. In the line of Potato Diggers, where farmers do not raise but one-fourth or half an acre, this will subserve an excellent purpose, as the small iron harrow, which is attached to the implement, will bring out every potato to the surface of the ground.

There was a good assortment of harrows on the ground, and one combined revolving harrow, which discloses a new and valuable principle, and which we have seen in operation, and know to be a valuable implement, took the first premium.

Intimately connected with harrows was a revolving cast-iron clod crusher, which, no doubt, would operate well where lumps and clods are always sufficiently dry not to pack into the grooves, in which case it would be but little better than a plain land roller.

There has evidently been a vast amount of thought and money expended in endeavoring to get up implements that are different from anything now in use, and which never were, and never will be, of any practical utility to farmers. This was the case here at the fair. There were thousands of dollars worth of farm implements that were utterly worthless as real practical implements, and still the inventors flatter themselves that they have produced something that will astonish the world. Of such implements we do not propose to say anything, but to speak of those which possess true merit, that will stand the test in future years, and which will operate well whenever they may be put to the test.

[For the Country Gentleman and Cultivator.]

TURNIPS AFTER CORN AGAIN.

I notice an article in last week's COUNTRY GENTLEMAN entitled "Corn after Turnips," by your correspondent, Mr. BARTLETT, and as I have had some experience in the matter, which I certainly paid well for, you shall have it.

Some four years since I raised a noble crop—some 30 loads of Ruta Bagas, on a lot consisting of about 1½ acres, which was a heavy clover sward turned under in June, and well top-dressed with fine compost. The next season I planted to corn, supposing, of course, to receive good returns, as the land had been so thoroughly fed the year previous. The result was, however, a total failure—there not being sufficient grain really to pay for harvesting. I have also known similar cases of failure in our locality since. The reason I am wholly unable to assign, as the land was certainly in good tilth, but infer the turnips must extract some ingredient from the soil which is all-important to the corn crop. Perhaps Prof. JOHNSON, or some other of our agricultural chemists, can tell us what it is. We only know the facts, without pretending to assign the cause.

Salisbury, Conn.

W. J. PETTEE.

[For the Country Gentleman and Cultivator.]
SOWED CORN.

I became a farmer in April, 1859, and therefore as my experience in farming is brief, those who choose can skip over what I have to say. But experienced or not, I find I have succeeded in making farming, on \$100 land, pay; and if I was asked to name the reason, I should unhesitatingly point to the production of *sowed corn*. My production of this crop this year will amount to about 15 acres, 10 of which I have just finished cutting, designed more particularly for late use; the balance has either been fed, or is yet standing to be fed before frost, if there is time enough before that event, or to be instantly cut down should that event be threatened.

I have before explained my method of raising sowed corn, but as I see so much poor stuff under this title about the country, I consider it my duty to repeat my system.

On the largest scale, I raise this crop on the Mohawk Flats. In June I turn over an old meadow, harrow thoroughly, and with the Albany drill, sow Western corn in the lap or at the lap of every other furrow. I cultivate once with Alden's thill cultivator, and that is all till harvest.

Now at the lowest estimate, I am reaping 25 to 30 tons of the best cow food in the world per acre, at the trifling outlay of

Plowing once per acre, say.....	\$2 00
Harrowing per acre, say.....	1 00
Three bushels of seed.....	1 87
Sowing and once cultivating.....	1 50
Cutting and binding.....	3 00
Hauling to yard and stooking.....	2 00

Or per acre, \$11.37

That is to say, the fodder stacked up in my yard costs less than two dollars per ton, or less than one cent for ten pounds.

I have said nothing about manure, for I use none at all for the Flat's crop, and it leaves the land in a most excellent condition for the succeeding crop, which is oats or barley with grass seeds; for be it understood, sowed corn is *not an exhausting crop*. In the most perfect degree it comes up to the requirements I have seen discussed in the COUNTRY GENTLEMAN during the last year, of a fallow crop. It shades the land; it assists in decomposing the sod; it assists in destroying and smothering weeds by its luxuriant and late growth, and it requires that the weeds should be destroyed in the earlier stage of its growth. What more is required of a fallow crop?

Talk about roots! carrots, turnips, &c. I have heard of 1,000 bushels of the former—some twenty tons per acre; and of the latter, the Scotch farmers talk about eight or ten tons, and in rare instances as high as fifteen, but I venture to say that no person in the United States ever succeeded in raising over an acre or two of either at those rates. It is generally small patches that produce at the rate of 1,000 bushels of carrots per acre; the labor actually forbids extensive fields, even if cellar room did not.

But the objector says the root crop is worth the most. It ought to be, for it doubtless costs at least five times as much to produce one-half the quantity, or in other words, I can produce ten pounds of sowed corn as cheaply as I could one pound of any root crop, unless it may be potatoes of some of the new and hardy varieties.

Now let us see what the value of sowed corn really is. Let me first premise that I took the trouble to weigh a portion of my upland crop in August, and I found it to be 36 tons of the green fodder per acre, and not nearly fully grown at that, though probably quite as valuable as if mature. But as to the value, I feed and milk 66 to 68 cows. They are milked at 4 o'clock A. M. As soon as milked a bag of two bushels of "ships" is fed out to some of the more deserving of the herd. After breakfast, or about 7, they are turned out upon after-feed, and kept there about three hours. They fill themselves pretty well, though not sufficiently to lie down generally. At 10 they

are turned into a lot where there is plenty of water, but no feed. At 12 they go into the stable, where the corn is already placed in their mangers, in quantity about 20 pounds per cow. At 2 they are again milked and turned out where they just get feed enough to keep them busy till 5 or 6, when they are again turned into the stable, where about 40 pounds per cow, of corn, has been placed in their mangers.

The reader can judge how large a proportion of their food is corn. I estimate two-thirds, though their pasture is good, but allow one half. Well then, 67 animals in 23 days had consumed just 231 square rods of corn, or 10 rods per day for the whole herd, or the sixteenth of an acre per day for one-half the living of 67 cows; or one-eighth acre per day for their entire living; or some 4,200 pounds of the fodder, or 60 pounds per day per head for the half of it. Calculation shows that 108 rods should, at this rate support a cow in milk 365 days. Will any root crop in the universe beat this?

For upland an abundance of manure must be used, and besides the cultivation, one hoeing and weeding is given. The distance apart of the rows the same, say 24 inches, and the stalks about 3 inches apart. If the reader will take the trouble to calculate, he will find that if the stalks averaged a pound each with these conditions, the yield should be 56 tons per acre, but they do not. A good stalk in the tassel will weigh a pound, as I have many times proved, but they will not average that.

For winter use, the corn is bound in bundles, and set up in the stack-yard in moderate sized stooks well bound, consisting of twelve bundles. From this yard it is taken as fed out, and I have fed as late as February 1st. It kept well till then.

Let me close my essay with an incident *appropos* to the subject. One day last June, when our hay crop looked unpromising enough, I met a distinguished politician of this State, whose reputation is national, and who is besides being a politician, a practical farmer—much the noblest calling of the two by the way,—“Mr. W.,” said he, “what shall we do for hay next winter? Shall we sow Hungarian grass?”

The Governor, by the way, was one of the first to bring that humbug from Iowa into this county. I replied that I sowed Western corn, and was then about to sow ten acres of flats for winter use, besides my usual crop for summer. Acting upon my advice, he sowed some six or eight acres of his flats with corn. I met him the other day. He had harvested his crop, and remarked “what a splendid crop it is. Why is there not more of it produced?”

American Farmers, ask yourselves that question, and cease imitating English farmers. Adapt your farming to your climate. w. Utica, Sept., 1862.

The Provincial Fair of Upper Canada.

We much regret that unavoidable circumstances prevented our attending the exhibition of the Provincial Ag. Society of Canada West, week before last at Toronto. From friends who were present we learn that it was well attended, the sales of admission tickets amounting in the whole to probably \$12,000 or \$13,000. In several departments—particularly perhaps, Short-Horned, Galloway and Angus Cattle, and the mutton breed of Sheep, the show is thought to have been a remarkably good one, and throughout it probably compares favorably with any ever held by the association.

Mr. HARRIS of the Genesee Farmer, who was present has kindly furnished us with a copy of the Catalogue of the Exhibition. This is a most important adjunct to the interest and usefulness of such a Show, and ever since we had the opportunity of learning its value at the Foreign exhibitions, we have been most desirous that our Society should also issue a Catalogue of its exhibitions. To do this, however, with any degree of completeness, it is ab-

solutely essential that all *entries* should be made several weeks in advance; and it has been thought doubtful whether we should succeed in inducing or compelling our impatient people to take this anticipatory trouble. The Catalogue before us contains 100 pages, and 1814 entries numbered successively, and arranged in classes and divisions corresponding to those of the Premium List. Thus we ascertain that the number of entries was as follows:

Class	HORSES.	Class	SHEEP.
1. Blood.....	24	15. Other Long Woolled.....	87
2. Agricultural.....	91	16. South-Downs.....	87
3. Road and Carriage.....	143	17. Cheviots.....	19
4. Heavy Draught.....	45	18. Other Medium Woolled.....	45
CATTLE.		19. Merino and Saxon.....	50
5. Short-Horns.....	123	20. Other Fine Woolled.....	11
6. Devons.....	97	21. Fat.....	23
7. Herefords.....	27	PIGS.	
8. Ayrshires.....	74	22. Yorkshire.....	33
9. Galloway and Angus.....	62	23. Large Berkshire.....	16
10. for Special Prizes.....	—	24. Other Large Breeds.....	14
11. Grades.....	52	25. Suffolks.....	36
12. Fat and Working.....	32	26. Improved Berkshire.....	54
SHEEP.		27. Other Small Breeds.....	37
13. Leicesters.....	236	28. Poultry and Rabbits.....	244
14. Cotswolds.....	62		
Aggregate of the whole.....			1814

We give the above *in extenso* because it presents in tabular views both the classification of breeds adopted and the relative numbers in which they were represented. The Short-Horns, Herefords, Cotswolds and South-Downs shown by the President, FRED. WM. STONE, Esq., were among the finest in their several classes. Mr. JOHN SNELL, Col. DENISON, Messrs. JOHN and GEORGE MILLER, and DANIEL TYE, were among the large and prominent exhibitors. From the American side of the line were T. L. HARISON, Esq., and Messrs. BRODIE, CAMPBELL & CO.

For the Canada Company's prize for the best 25 bushels of winter wheat, there were 22 entries; for the best 2 bushels of white winter wheat, 40 entries; for the best 2 bushels red winter, 15 entries; for the best 2 bushels white spring, 22 entries; and for the best 2 bushels red spring, 39 entries. Our informant thought these samples of grain not equal to those exhibited on former occasions.

The Toronto Globe, in its very full report of the exhibition, says, "the show of agricultural implements, of fanning mills and of threshing machines, of straw cutters and root cutters, of cider presses and of cheese presses, of horse rakes and hand rakes, of scythes and snaths, of steam engines, of harrows, of churns, of plows, is, we think, taken all together, better than we have ever seen before in this Province." The same paper, which is one of the most ably managed and influential of the Canadian journals, also notices the fact "that many of the articles shown are copies of others of American make," and adds the following pertinent remarks:—

Our manufacturers and the people of this Province, who buy from the manufacturers, are much indebted to American suggestions, and we still think those who have the management of the Exhibition are guilty of a very narrow-minded policy in not opening the prizes for competition to our neighbors. The object in holding the exhibition at all, we suppose, is not to enable Canadian manufacturers to get premiums, but to create competition among them whereby improvements will be effected which will redound to the good of the Province as a whole. By encouraging American manufacturers to come here, many valuable hints would be obtained. To exclude them because they would take a good many prizes, is a sort of system by which we "cut off our nose to spite our face."

Lack of space compels us to close this imperfect notice by adding that we hope to have a considerable representation from Canada at our State Fair, both as visitors and exhibitors. Our departments are now all open to them, on the same terms as to our own citizens, and the community of interest between the farmers and breeders on the two sides of the border, is annually increasing and strengthening.

L. H. T.

NEW IMPLEMENT FOR CULTIVATING.

A late number of the COUNTRY GENTLEMAN contained a brief notice of a new implement for planting and cultivating, invented by S. W. HALL of Elmira. It was exhibited at the State Fair at Rochester, but we understand through a mistake of the Committee, was not seen nor reported upon. We gave it some examination, and found it to comprise several points of merit. It is used for both planting and cultivating. Its leading object is to obviate the necessity of carefully guiding the horses in marking, planting and cultivating, by making a track in which they will accurately walk with but little attention. A single straight furrow having been made, two parallel pieces of timber or scantling, furnished with small wheels, and cultivator teeth, follow, marking two perfectly parallel straight furrows. The implement being drawn by two horses, a new furrow is made at each passing. Between these tracks, the seed is deposited—the rows of course being quite straight and parallel. The contrivances for dropping beans, corn, carrots, beets, and potatoes, are good ones, and show much ingenuity. After the crops have come up, they may be cultivated by the same machine, with great accuracy, the rows having no curves nor crooks, and admitting the teeth or knives to run very closely—thus saving much hand labor. For cultivating carrots and other small plants, while in an early stage of growth, a contrivance is attached that cuts very closely to the rows, at the same time that it protects the young plants from being covered by masses and clods of earth. and cleans the cultivator teeth when they become clogged. For digging potatoes, a set of hooks is placed in the implement, which move along through the centre of the row with none of the usual care required to keep a potato plow in the center; as, to use the inventor's phrase, "there is no dodging." This implement is rather complex, and costs about \$60.

There are two leading objections to it, which we trust the inventor may obviate. The first is its complex structure and consequent cost. Possibly the frame-work may be greatly simplified. The other is its inability to work but one row at a time—although this objection is at least partly obviated by the extreme accuracy with which the planting is done, and the closeness with which the cultivating is done to the rows. Yet if a simpler and lighter form of frame could be devised, so that instead of forming two furrows only, four could be cut at once, with three intermediate planted rows or drills, the machine would work more rapidly by three times, and be more in accordance with the wants of American husbandry, which calls for horse labor, with as few attendants as practicable. Garrett's Horse-hoe, which is used on the clean, smooth, highly cultivated lands of England, cleans or cultivates eight rows of carrots at once, planted nearer together than farmers usually plant in this country; and every invention that will enable farmers here, where hand-labor is more expensive, and horse-labor cheaper, to sweep through their corn-fields and root crops, taking more than one row at a time, will meet their approval in this respect. Their successful use, presupposes, of course, good land in fine cultivation, and not grassy, stony, rooty, stumpy ground, rendered uneven by "cradle knolls."

PATENT OFFICE REPORT.—HON. D. P. HOLLOWAY, Commissioner of Patents, will please accept our thanks for copies of the Report on Agriculture for 1861. A copy of the Report on Mechanics would be very acceptable.

SURFACE APPLICATION OF MANURE.

"At one of the meetings of the New-York State Ag. Society, 1860, Major Dickinson is reported as saying: 'I hold that one load of manure on the surface is worth two loads plowed in.'"

This remark, made by me to a body of practical farmers of large experience, and of the very highest intelligence in their art, being received without discussion, it was not supposed at the time to be necessary to prove it—especially before so enlightened an audience. I certainly did not expect to be called on by a reader of the COUNTRY GENTLEMAN to defend so plain a proposition; much less by one who sets himself up as a teacher of agriculture. But so it is, and I beg the indulgence of agricultural readers for trespassing on their patience to prove the truth of my assertion, for the benefit of Mr. BARTLETT and a few new beginners.

Eight tons of manure, properly prepared and judiciously applied to the surface of an acre of poor, thin meadow soil, that would not produce more than half a ton of hay to the acre without it, will increase the yield of hay to one ton per acre. And if the grass is cut early,—that is, before the seed begins to form,—and the meadow is not pastured, the same application of manure three years afterward will increase the yield to one and a half tons per acre; and the same process repeated three years thereafter, will make it produce two tons to the acre. The roots and rootlets would be increased quite as much by the application as the growth above ground. Each application of this manure will add one hundred per cent. to the original growth. This large increase is on the most favorable soils; but to prevent its being an extreme case I will reduce the increase three-fourths, so as to meet the most unfavorable soils that can be found; and even then, one load of manure thus applied is worth two loads plowed in, for at the end of ten years the sod will have so increased in thickness and in substance, as to contain more fertilizing material for plowing under, than is contained in forty-eight tons of such manure plowed in.

Now let us take a much stronger case:

Plow up the soil by the road-side of your meadow, where it is as nearly as possible like your meadow soil; draw and spread twenty-five loads of it on an acre of the meadow, and after an interval of two years, spread the same amount again, and you will thereby increase the quantity of hay from fifty to one hundred per cent., if the original yield was not more than three-fourths of a ton to the acre. Then take one other acre of such land, and spread one hundred loads of the same soil upon it, and plow it in, and if you derive ten per cent. advantage from the operation, you will have accomplished more than I could do.

Again, sow ten bushels of ashes on an acre of meadow producing less than a ton to the acre, and it will increase the yield from one-fourth to one-half of a ton. And that is not all; it will bring in and promote the growth of other grasses that did not before make their appearance, and add very much to the quantity of sod to be plowed in. Then take the same amount of ashes to the acre, and plow it in immediately after spreading, and you will find by comparison that one bushel for top-dressing is worth ten plowed in. With plaster the case is still stronger with this difference—that it does not increase the sod to the same extent. I must not be understood that the same soil is always best to top dress with. While I have invariably found it to answer an exceedingly good purpose, I have found that clay is much better than any muck with which I am acquainted. The preparation and application of these fertilizers, is simple, plain, and consistent with nature.

It is well while making manure in the yard to spread occasionally a load of plaster on it, at the rate of say one ton of plaster to fifty tons of manure. It is well also to feed occasionally through the winter some hay that has been cut after it has ripened, so as to have abundance of

seed in the manure to supply any deficiency in the meadow. This ripened hay should be cut from meadows that have been made so rich that it will not deteriorate them so as to prevent their yielding a good crop thereafter. Manure prepared in this way through the winter is ready for use in the spring. The plaster not only holds all the ammonia with which it comes in contact in the yard, but has the power of accumulating more after being spread on the meadow or pasture. In hauling out the manure, a yoke of oxen is the best, because the cheapest. A yoke of oxen well fed, with a careful man to drive them, will fat almost as fast at this business as to lie idle; and they can therefore be increasing in value every day. The man that spreads it must have brains, as there will be some portions of the field that need more than others to make the meadow even. He should stand on the load while spreading, as he can see much better from that position where and how to spread the manure; and besides he can spread it faster in this way than when it is unloaded in piles about the field. I never permit a man to unload in piles for the purpose of making haste for dinner, rain or night. He may unhitch from his wagon to make haste for anything, but manure is too precious for top-dressing to be piled up in the field. No man can apply it to grass as it should be, after it is unloaded in piles, for the reason that all that is left in the pile must be spread, and if not sufficient, it must answer; and still worse, the fine whiff would be left in the bottom of the wagon is pulled off into the pile instead of being taken as it should be to some portion of the field where strawberries, moss, or some other pernicious things are trying to run the grass out, which latter course is as much preferable to harrowing and scarifying the meadow, as it would be to feed the proper food to stunted scurvy cattle whose hides have grown fast to their bones from starvation, instead of scarifying their hides to give them a start.

I never saw a skillful top-dresser whose meadows "run out," and I never saw a man, or one that had ever seen one of that class of farmers, whose sheep had "run out" or deteriorated in his hands.

Top-dressing sometimes can be applied to the cereals to great advantage, especially when the piece is seeded down. In the year 1859, the crop of oats was in many sections a failure, in others a short crop, by reason of the cold drying winds which followed the rains, which so crusted the soil over that the roots neither received sufficient air nor surface moisture. I then top-dressed 35 acres of oats, and 25 of spring wheat, with ten bushels of ashes burnt from sods, and two bushels of salt, to the acre, which served, with the aid of the after rains, to feed the roots and stimulate the growth, so that the oats and wheat thus treated yielded twice as much as other oats and wheat which I raised that season on equally good and well prepared ground, without the top-dressing.

After the manure has been spread from the wagon, it should be spread over again after a rain. Eight tons to the acre are not sufficient to cover the whole surface, but the manure can be spread much more nicely when wet than when dry. There are two objections, however, to drawing when wet. One is, the manure is then much heavier to handle, and the other, which is by far the greatest, is that it cuts up and injures some soils almost as much as the manure does good. The second spreading should be made to touch every place which was not reached the first time, even if some places have to be slightly uncovered to do it, as the rain will have washed out enough to give all the plants a taste, where it lay in the first place.

It is better to spread small quantities of manure often over the surface of the whole farm, than to put large quantities on some places, letting other portions go without any, except for a few crops which require quick rich soils before the farmer has time to enrich his soil sufficiently by the slower process. This I know is against the teachings of Liebig and Way, as well as most of the agricultural writers of ancient and modern times. But I have the practical experience of our own country to sustain me, which after all is the surest teacher.

A sufficient quantity of manure applied to a thin soil

at one time to make it rich enough for all crops, would be injurious to many. It would make the grass for pasture rank and rancid; instinct, as well as good taste, would teach the cattle and sheep to avoid it, unless they were starved to it, in which case it would be sure to give them the scours. It would produce a large quick growth of hay, of little taste or substance, and liable to lodge. It would have a tendency to make wheat rust and shrink,—especially with the aid of showery weather, followed by hot sun, just before ripening. It would make beets hard, woody, stringy, and tasteless. Turnips grown on a soil so highly manured, would be strong, and far less agreeable to the taste of man or beast, than if the same quantity of manure had been incorporated in the soil by the aid of grass-roots for a series of years, which would have sweetened the soil as well as the turnips. For corn or carrots, I do not think there is much danger of injuring the soil by any quantity of manure that a man would be likely to apply. They require a soil of high fertility, and their flavor is but little if any impaired by excessive manuring. While corn draws much of its nourishment from the atmosphere, it is necessary for it to have a rich soil to give it a good start and make it shoot forth ample leaves to feed upon each passing breeze; and after it is thoroughly prepared with its thousand mouths to feed upon its new element, it draws comparatively little from the soil. Everything depends upon a good start with corn, and he who puts it on the race-course had better see that it has a fair chance and free course at the word "go." It is not so much matter about watching it at the last end of the race, only to see that it comes in ahead of Jack Frost. With carrots it is entirely different. They feed from morning till night, from night till morning, and from spring till fall, upon the soil.

And therefore it is that John Johnston, Geddes, Benham, Harvey, and Standing, as well as myself, find it necessary every year to plow in a portion of our manure. But it no more disproves the general truth of my assertion, "that one load of manure on the surface is worth two plowed in," than any other exception disproves a general rule; and I believe it is an admitted fact among philosophers, that all general rules have their exceptions.

Sod ground with a good thick sward, besides furnishing the best and cheapest manure, protects the soil from drouth as well as frost, and above all things else prevents its leaching and running to waste.

Grass roots need hoeing and feeding as much as corn, and the grass, if properly cared for shows its keeping quite as well. It however requires very different treatment. While it is necessary for corn to stand at proper distances, the thicker the grass stands, the better; and while for the former the surface needs to be broken up and thoroughly cultivated, the latter needs a smooth unbroken surface. Therefore other implements than the harrow, the cultivator or the hoe are required for the cultivation of grass. Water is by far the best agent which can be employed for this purpose, but in places where it cannot be brought into use for carrying on and depositing the necessary material, the next best and cheapest way to do it is the best. I care not how it is got there; if properly applied, it never fails to pay. The best way in this case, as in all others, is to follow nature, who never makes a mistake. Look at the low, wet, cold, boggy places which are sometimes found in a plowed field, that could not at first be plowed, but which receive the washings of the plowed ground. The top-dressings thus carried on from time to time by the water, though forming but a slight covering, are equally as beneficial to the grass which grows there as the hoeing is to the corn. The same care and food, however, that would be sufficient for the grass, would be entirely inadequate for corn. Yet by the slow, sure process of nature, this cold, wet, boggy piece of land becomes, by oft repeated coverings, sufficiently rich and dry for corn.

Nobody denies that with sufficient manure to plow in, grass, as well as everything else, can be increased to an extraordinary yield, but the question under consideration is entirely one of *economy*; that is, how to apply it with the least waste and most profit, and when I say *profit*, I mean permanent profit to the soil as well as to the farmer.

The farmer that cares well for his grass in the beginning, will have plenty of manure in the end, but little to buy, and much to sell. A. B. DICKINSON.

[For the Country Gentleman and Cultivator.]

PRUNING OLD TREES.

There is much difference between old and young trees with respect to pruning. And yet the same pruning is applied to all. This is a great error, and injurious to the trees; especially are old orchards badly treated. And yet old orchards may be so rejuvenated as to have the effect of young trees. But care is requisite; a proper study of the laws of the tree, which change with age.

I have had the charge of an orchard of eight apple trees for eight years. When I took my charge in hand, the trees were about forty years old. Some of them showed signs of decay. They had been treated in the ordinary way—some limbs removed occasionally, but no thorough care taken of the trees. I began my treatment by removing all dead limbs, and all that showed signs of decay. This, I argued, would turn the substance intended for these useless limbs into the healthy branches, thus increasing the health and vigor of the trees.

I thinned out where branches were too dense, and gave the sun a full chance. All this, however, I did not at one time, deeming the shock too great for the tree; but took three years to it, the second year removing only the shoots; the third year removing the effected limbs, some of which, to lessen the shock, I grafted. This somewhat continued the current of the tree in those limbs. I found these grafts among the thriftiest I ever saw. Now and then I would remove a decrepid limb to give place to a thrifty shoot. Of course I kept the tree clear from insects, which I found quite difficult at first. What infected fruit dropped prematurely I at once removed. Where fruit clustered too close I thinned it out.

The orchard was plowed but twice during the time. I deemed grass (timothy) a good mulch, and no injury from its slight roots to the tree. I let it creep up to the bole. The soil was a deep rich gravelly loam.

My orchard is among the oldest in the neighborhood. It is the only thrifty old orchard. It is the only one that bears fruit abundantly, and of good size and quality. It is a sight to see the trees,—and this alone almost pays for the trouble. The labor now is but little, as there is a scarcity of insects, and only thumb-and-finger pruning necessary, except in two trees which show signs of decay. These I prune yearly by removing some of the large limbs. I thus have reduced these trees, the one by half, the other three-quarters, or there is but one limb left, the central one, and a large one, and among the thriftiest in the orchard. Its fruit is the finest, and it bears yearly a good crop. But it is hardly age alone that affects this tree; over half of the bole is rotten, a hard rot. The other stands near the foot of the kitchen-drain, and ashes have been scattered pretty plentifully near it. The bole is sound, the fruit is excellent and abundant every year; but year after year some branch shows decay.

Another tree (the ninth) was left without pruning, the fruit being inferior, and decay visible in its branches. This tree has been dead for several years. I am confident that by proper attendance, this tree would now be a fruit-bearing tree, and as healthy as any in the orchard, what there would be left of it.

My trees generally are not large—not so large as once. They show numerous signs of branches removed, and in consequence, are awkward in shape. The shoots and grafts add to this; but the lustiness of the trees makes up for the loss. There are two trees from which no branches have been removed. These are large—one forty feet in diameter, though its bole is not larger than the other trees of the orchard; but their fruit is less in proportion, and of less excellent quality. I expect in a few years to see some of the limbs wither. I have thought it might be best to anticipate this by lessening the limbs, and thereby at least improve the quality of the fruit. F. G.

EDITORIAL CORRESPONDENCE.

The Rushville Show.

The Rushville Agricultural Society held its Fair at that place Sept. 22 and 23. It was well attended in view of the state of the times, and the exhibition of stock has seldom been excelled. Among exhibitors of *Cattle*, were the President of the Society, W. N. Perry, Esq., of Short-Horns; J. W. Williams, Middlesex; Ashley Thomas, Potter; Thos. Tufts, Gorham; M. A. Phillips, Middlesex; J. H. Wilson, Rushville; Hiram Harkness and L. D. Gage, Gorham. Among the prominent *Horse* men, were O. S. Williams, Middlesex; D. A. Sutherland, Abner Dwelle, L. Dow Gage, G. W. Stearns, Jas. Wilson and A. Arnold, of Gorham; H. M. Boardman and Richard Sackett, Rushville; Dr. Crane, Benton; J. H. Holden, Potter; Addison Stearns and others. *Sheep* were shown by H. Arnold, H. Raplee, Lyman Washburn and Amasa Gage, of Gorham; J. W. Williams and Thomas Underwood, Middlesex; and Denton Bostwick of Potter. The display of *Fruit* was quite extensive, including several collections of fine appearance, and embracing a large number of varieties; in this department, the President Mr. Perry, the Secretary Mr. Stearns, and Messrs. H. M. Boardman, Myron Gage, L. Fountain, W. A. Dinehart, J. W. Williams, Jas. Christie, Hiram Harkness, Jas. Catlin, Jas. Stebbins, and R. Robson, were among the chief contributors. The show of *canned fruit* was particularly good, including samples from Mrs. Howell, Mrs. Boardman, Mrs. Perry, Mrs. Stearns and Mrs. Bassett.

Rushville lies partly in the county of Yates and partly in Ontario, in a charming valley and in the midst of one of the finest farming regions in the State. In the conversation I had with Mr. President Perry and with the Secretaries Messrs. Stearns and Sayre, I learned much that was interesting, and if "State Fair" business had not hurried me on to Rochester, I should have been delighted to take a day or two with these gentlemen, Mr. Metcalf and others, and examined still more closely the agricultural condition and resources of the locality. Among other gentlemen who were kind enough to give me some information about it, was Mr. W. T. Crittenden, and as his farm was right in sight of where we were talking, and affords moreover so good an example of *good farming*, I venture to transcribe here some details with which he was kind enough to furnish me.

Mr. Crittenden's Farm

Lies in the town of Gorham and includes 480 acres. His crops the past season have been of the following extent:

Wheat.....	100 acres.
Barley.....	40 do.
Oats.....	40 do.
Indian corn.....	60 do.
Clover.....	50 do.
Timothy hay.....	60 do.

The clover is mowed for a first crop of hay, and then a part or the whole of it, as circumstances may dictate, for a second crop of seed. In accordance with what we have always advocated as the true system for Grain farmers, Mr. C. feeds a large number of sheep, and with the aid of their manure and of clover, has vastly added to the productive capacity of his land.

But the sheep do more than to convert the straw of these large crops of grain, into an important source of fertility to the land. Mr. C. buys them in the Autumn, selecting wethers either from Western New-York or from Michigan, Merino and Merino grades, and keeps them in open yards with shelter attached. They can generally be obtained at an average of about \$3 per head. They are fed

with the hay—clover hay being regarded especially valuable—with the corn fodder, an acre of which, *well cured*, Mr. C. considers as equal in value to an acre of good hay; and with what corn they require beside. They are fed according to the season and opportunities of buying, in numbers varying from 1,000 to 1,500 each winter. They are sheared quite early, say in April, partly because, as will be seen from the uses to which the land is put, there is no pasturage for them, and partly because they sell better for market at that time than later. They shear an average of about 6 pounds wool, which sells for from 40 cts. to 50 cts. per lb.—the former figure being the price obtained in 1861—the latter the price obtained the present season. The wethers themselves sell for a little more than they cost, affording a slight return, beside all the wool brings, and the great value to the farm of thus working down the straw into manure. For the fodder and small quantity of grain they eat, and the comparatively little care they require, a very good return is accordingly received—Mr. C.'s receipts from this source varying from \$2,500 to as much as \$3,600 per year. Beside this, the hundred acres of wheat are expected to average 25 bushels per acre, and do it, too, one year with another. With the improved machinery of the present day, Mr. C. is enabled to take care of all this surface of grain, and do all other farm work, with the aid of about eight men in the summer time (for about seven months,) and two men in the winter.

The wheat is partly Mediterranean and partly Soules—the larger proportion, perhaps of the former, although the farmers here seem now to be increasing their area of white wheat by degrees, as a general thing. The wheat is always drilled in, and is thus found more certain to vegetate if a drouth follows the time of seeding, and less liable to winter kill.

The manure lies for the most part in the open yards till spring, when it is drawn out and piled; Mr. C. thinks the best method of applying it, to brush it in on the wheat land, as a top-dressing, after plowing and before sowing the seed. If he has not time to do this, he carts it out during winter or in the following spring.

The average size of farms in this part of the State is thought to be about 100 acres,—perhaps a little higher in the immediate vicinity of Rushville. On a farm of 100 acres, probably fully 25 to 30 acres will be sown to winter wheat. The system described of feeding sheep, is practiced by a few, but perhaps by none on quite so large a scale as by Mr. Crittenden. The average yield of wheat for the whole vicinity is reckoned at 20 bushels or a little more, while the best farms run up to 25, and often higher. The average corn crop is about 40 bushels shelled, the country over, and probably 50 on such farms as Mr. C.'s.

—Such figures as these prove that Farming in Western New-York is not quite in a state of decay. I trust the time is coming when the State will produce all the wheat and more, that is required for its own consumption; and nothing can advance that day more rapidly than the examples of such farms as Mr. Crittenden, Mr. Metcalf, and several others whom I had the pleasure of meeting at the Rushville Show.

L. H. T.

Rochester, Sept. 24, 1862.

JOHN M. NEWTON, Esq., of Newtonville, has sent us an apple weighing 16½ ounces from a tree but 16 years planted, and which this year produced three barrels; and this on the sandy soil of Watervliet.

Marshal BURT has sent us some fine samples of the Schuyler Gage plum from his garden in Hamilton-street.

President Wilder's Specimen Pear Grounds.

During a recent visit, we had an opportunity of examining these grounds at the most favorable time,—while the trees were in profuse bearing, and the fruit mostly approaching maturity. As many of the readers of this journal are aware, this collection is unequalled by any similar one in America, and no person has accomplished so much as Col. WILDER in the way of introducing new and valuable varieties, both of European and native origin. The pear trees, which closely cover several acres, are of various ages, but a large majority are from twelve to twenty years old. A dwarf Glout Morceau, in bearing, is 33 years planted. Many others are nearly as old. There are about two thousand five hundred specimen trees of good size in all, and not less than *eight hundred varieties*—and all being under a high state of cultivation, and the crops having been judiciously thinned so as to afford a growth of the finest specimens, the whole collection presented a truly magnificent appearance.

President WILDER has not however given his attention exclusively to fruits. In the cultivation of ornamental plants, he has been eminently successful. He has now many hundred Camelias, which form a beautiful display in winter. Some of the readers of the COUNTRY GENTLEMAN may remember the two new varieties he produced some years ago, which were eagerly bought by a dealer at five hundred dollars each.

As a successful patron of rural art and rural improvement, he has no superior if his equal in America. The numerous public offices he has held, in connection with both Agricultural and Horticultural Societies, show the appreciation with which his labors have been universally regarded. This is not, of course, the place to speak of the high positions he has held in political life, nor of his success in the commercial world, but it may not be out of place to say that he maintains an elevated rank among the most eminent merchants of Boston, and the magnificent building occupied for this purpose on Winthrop Square is perhaps only equalled by Stewart's celebrated "dry goods palace" in New York, and even this in some respects is inferior.

WORCESTER AND VICINITY.

A drive through many parts of the fine agricultural region of Worcester county, Mass., presented a number of objects worthy of record—although performed with other than agricultural purposes in view. On the grounds of EDWARD EARLE of Worcester, are many fine bearing pear trees, that show how successfully this fruit may be raised in this region. The large Buffum tree, grafted twenty-three years ago by his own hands, is a sight to behold! The trunk is ten inches in diameter, the tree over 25 feet high, and the top about 20 feet in diameter; the pears literally hung in masses over the whole tree. The crop is estimated at least twenty-five bushels. It bore twenty bushels in 1860—the present is a much larger crop. A dwarf tree of the Sieulle, twenty-three transplanted, and now in a state of vigor, bears at least five bushels. Dwarf Angoulemes and other sorts are about the same age, and are thrifty and productive. A fine tree of the Winter Nelis was loaded with several bushels of fine specimens. Edward Earle took me in his carriage to Leicester, a few miles northwest of the city, to a place of some hundreds of feet of higher land. Formerly, fine peach orchards bore abundantly nearly every year at this locality, but

the trees throughout the county have been latterly neglected and allowed to run out. I did not see more than a dozen or two of peach trees in all my rides, yet some of these were loaded with fine crops. The same rule which has been observed to hold elsewhere appears to exist here, namely, the more elevated portions of land are best for peaches, and low valleys, which are more subject to sharp frosts, prove unfavorable. Shrewsbury, which is on high land, is another excellent locality for fruit, while Boylston is low, and unfavorable. Near Worcester, I saw a fine specimen of nature improved by art, in a full-headed ash tree, a few of the lower branches of which were grafted with the weeping-ash, and these grafts growing luxuriantly, droop in rich masses, and form a beautiful whole with the rest of the head. This example might be copied with advantage in many other instances.

Near New-England Village, I examined a fine orchard on the farm of SAMUEL KNOX. A portion of it consisted of 48 Baldwin apple trees, sixteen years old, on an acre of land. The trees had not received any special attention until within two years when it came into the possession of the present owner. They are now about half of full size. He manured the orchard at the rate of 40 two-horse loads per acre, and plowed it ten inches deep, cutting off many of the upper roots. I observed portions of roots plowed up, as large as a large walking-stick. Over a cartload of such pieces had been drawn off from the acre. The trees were nearly all profusely loaded with large fine apples. It was estimated that an average of at least two barrels would be obtained from each tree, or about a hundred barrels per acre. I never saw trees bending under greater crops—although the apples were of good size, they were literally like strings of onions.

At the fine farm until recently owned by A. F. WHEELER, now by F. WOOD, near Grafton village, was a dwarf pear orchard of a thousand trees, set on land trenched 20 inches deep and well manured. The trees were obtained from Western New-York, and were all alive; they were all growing vigorously except six. But the most remarkable part was the crop of beets on this acre and a half. They were in drills 32 inches apart, and a foot to a foot and a half in the drill. Many of the roots already measured more than six inches in diameter. I inquired of the owner his estimate of the amount of the crop. He stated that he had taken up a measured portion, regarded as an average, but the amount thus estimated was so large that he was unwilling to give it. He however afterwards consented to do so; it was twenty-five hundred bushels on the acre and half, or over sixteen hundred bushels per acre. I never saw before a beet crop of this area that would compare with it. It will of course grow considerably before it is harvested, it being then early in autumn. On another piece of land, similarly treated, and planted with carrots, the green tops of these roots covered the whole surface, and formed a mass of foliage measuring two feet and a half high. These crops show what the soil of Worcester county is capable of producing with manure and deep culture. The former owner, and the raiser of these crops, a young man of much intelligence and enterprise, was just leaving for the war at the head of a company of volunteers.

J.

BOOK ON SHEEP.—Will you state in THE CULTIVATOR the best book on sheep breeding, where it can be had, and the expense? WOOLVERINE. *Ann Arbor.* [Youatt & Randall's "Shepherd's Own Book." We will mail it to you post paid on receipt of the price, \$2.]

HOUSEHOLD CONVENIENCES.

In the ILLUSTRATED ANNUAL REGISTER for 1862, are given directions for the arrangement of farm tools in the tool house, so as not only to present a neat appearance, but to give an exact place for everything, and to have everything in its place; and the hand can be laid upon any tool in a moment. We propose to suggest something of the kind for the different articles that are commonly seen in the living-room of the dwelling, stowed away in the closet.

Every good housewife has neatly arranged cupboards and dish closets. Everything has its appropriate shelf and division. But there are other things for which provision should be made—and especially is the interior of a closet not always a picture of perfect order and neatness. A pile of books is sometimes seen in one part of a dining room, a few newspapers in an other, and a pair of shoes in a third. Now we do not propose to give minute directions for disposing of everything that ever finds its way into the house, but offering briefly a few suggestions, that may lead to other similar suggestions in the mind of the housekeeper, and sometimes important improvements may possibly be made.

The inside of a closet is sometimes a mass of confusion. Half a dozen garments are hung promiscuously on one hook or nail; others are thrown down on the floor, among heaps of shoes, boots and overshoes. There is no satisfaction in witnessing such medleys. If there are no shelves in the closet, provide a regular row of brass hooks around the interior, and allow but one article to occupy each. Let one side be appropriated to one kind, and another side to another kind, having all systematically arranged; and it may assist in perfecting this arrangement to write neatly and distinctly the name of each article on a small slip of white, pink, or green pasteboard, and attach it by two small tacks over each hook. Then provide a row of shoe pockets near the bottom, or on the inside of the door. These are made by taking a piece of worsted, brown muslin or calico, making it into a bag wide enough to reach across the side of the closet or door, dividing it into several compartments by vertical seams, and then tacking the upper edge to the wall or door. Vertical strips of narrow braid tacked against the wall may serve for making the compartments. They will each receive a pair of shoes, and should not quite cover the whole of the shoe, but leave a small portion projecting, that they may be seen, and be easily withdrawn. If made of worsted and trimmed with colored braid, they will have a neat appearance. It is a good rule to deposit nothing on the closet floor, where it is sure to interfere with sweeping, and usually to retain or conceal some dirt.

A *divan* may be made by covering a good strong box a yard long, or a good well selected shoe-box will do for this purpose. The lid should be on hinges, and the top covered with a cushion nailed to it. This will make a convenient and comfortable seat for the sitting room. The interior should be divided into several compartments, and may be used for keeping various articles in. One part may be for shoes or overshoes, another for cast-away newspapers, &c., but whatever is kept within, let them be in neat condition, and handsomely arranged. *The habit of carelessly stuffing anything away out of sight, in hidden places, is a bad one, and will lead to careless habits elsewhere, or is the result of such bad habits. Whatever is done, whether concealed or otherwise, let it be neatly and well done.*

Those who write many letters should have a cabinet expressly for arranging and keeping them. If nothing is already made and provided, have a carpenter or cabinet maker construct one as follows, which need not cost more than two or three dollars, with a handsome finish, and varnished. A common or medium sized letter is 3 inches wide, and 5½ inches long; a small cupboard or cabinet, therefore, that is 6 or 7 inches deep from front to rear, inside, 14 inches wide, and 20 or 24 inches high, may be divided into 24 compart-

ments or pigeon boxes, four in width, and six in height—or one for each letter of the alphabet. Some of the letters, such as X or Z, will scarcely need a separate place, and one may be marked “*unanswered letters.*” As soon as a letter is read, place it in the last named compartment; when answered, mark on the end of the envelope, outside, the name of the writer, the date, and briefly the contents or subject, and place it in its proper box. Any time within a year, each may be quickly found, by simply observing the first letter of the writer's name. When the year is up, pin up these letters in strong paper bands, mark the letter of the alphabet and year outside, and pack them away till they are outlawed.

It often happens—much oftener than it don't—that housekeepers have *work-baskets* that are a sort of *omnibus*, containing a miscellaneous and confused mass of all sorts of odds and ends—plenty of odds, and all sorts of ends—such as buttons, needle papers, balls of yarn, half knit stockings, tangled skeins of silk, balls of beeswax, scissors, spools of thread, paper patterns, crooked pins, &c., &c. To find anything, the owner tumbles the whole over and over, and when out of patience turns all the contents on the table and searches the pile. A better way is to procure a basket made with compartments, or insert divisions of thin boards, or thick pasteboard. These, if covered with strong colored paper, will give a neat appearance. A circular work-basket, with a row of small compartments around the inside for small articles, and a larger space in the center for the rest, is very convenient. These smaller compartments may be made by dividing a worsted lining, by setting in pieces of wood or pasteboard, all pointing toward the center of the basket. If of wood, they are secured by means of very small tacks driven through a strip of narrow colored braid set on the edge of each piece of wood; if of pasteboard, they are sewed in.

There are many other contrivances that will suggest themselves to every neat and ingenious housekeeper. If any one thinks it too much “trouble” to provide all these, let her go through with a fair calculation of the time spent every year in hunting through her work-basket to find a missing article; in searching for a lost over-shoe; in clearing up the scattered items of a sitting room when company is coming in; or in long searches for some particular letter in a large drawer-full. Scarcely a day passes but more or less time is wasted in this way, amounting to many days yearly; while the satisfaction and saving of vexation by a perfect system and arrangement throughout, are much greater than the saving of time.

[For the Country Gentleman and Cultivator.]

EXPERIMENTING IN BEES—No. 2.

JULY SWARMS.—I recollect trite sayings, current many years ago, of the comparative value of swarms in May, June, and July. “A swarm of bees in May is worth a load of hay. A swarm of bees in June is worth a silver spoon. A swarm of bees in July is worth a bushel of rye;” and another, reading “a swarm of bees in July, let them fly.”

I have six July swarms, that, by securing a part of their first labor, have been worth a pretty good silver spoon:

1st hived—July 25, 1860, filled a box weighing 12 lbs.; the first season—in 1861, gave 68 lbs. of honey in the boxes, and this season gave a swarm July 10th. Aggregate, 80 lbs.

2nd—July 3rd, 1861, gave 29 lbs., and this season, 11 lbs. = 40 lbs.

3rd—July 4, 1861, gave 31 lbs.; this season, 6 lbs. = 37 lbs.

4th—July 4, 1861, gave 26 lbs.; this season, 24 lbs. = 50 lbs.

5th—July 4, 1861, gave 22 lbs.; this season, none = 22 lbs.

6th—hived later, date lost—in 1861 gave 19 lbs.; this season, 13 lbs. = 32 lbs.

This gives an average on each swarm for each season, of 20 lbs.

It will be seen that the June swarm did the best. But

little honey was made in the boxes after July. The amount taken from the six July colonies the first year, was 139 lbs. averaging a fraction over 23 lbs. to each. This was almost entirely the best of honey, gathered from white clover, and sold for 25 cents per pound. The same swarms this season have given but 41 lbs. and one swarm. There are two principal reasons for this difference. This season has not, here, been as good as the last; a second reason is, that in storing so much honey in the boxes last season, the hives were not more than half-filled with comb. In the winter, so poorly protected, large numbers of each colony perished. Hence they commenced this season weak, and the early, best part of the season was required to fill the colony with laborers.

The early part of the season is strictly the honey season—the season of flowers. The swarms in June 26th and 28th, 1861, gave the first 46, and the second 34 lbs. last season, and had, the first 30, and the second 34 lbs., stored for winter. They gave this season, the first 44 lbs., and the second, 16 lbs. and a swarm July 3d. Had but one box been placed in each hive for honey in the July colonies, there would probably have been from 10 to 12 lbs. secured from each, and the balance of the comb and stores placed in the hive, have protected and carried them through the winter strong and vigorous, to enter upon the work of storing honey early in the season, and by that means they would have done nearly as well as the June swarms. JASPER HAZEN. Albany, N. Y.

[For the Country Gentleman and Cultivator.]

HOW TO GET A FARM IN ILLINOIS.

EDS. CO. GENT.—Notwithstanding we live away out here in the Sucker State, we take your paper, and read it to advantage, we think. We have been some amused at the correspondence which has been published in your paper since the inquiry was made as to the best way for a poor man to get a farm. In the number for Sept. 4th, Mr. B. of Jamestown, N. Y., gives a gloomy account indeed of those who intend to try to buy a farm. The idea of giving one-half of all raised, beside hauling rocks, cutting so many broad acres of brush, building pig pens, making sheds, &c., all for the privilege of living on a poor farm—(Mr. B. assures us that none but poor ones are offered for rent)—looks more like a joke than a reality to a Western man.

I am not accustomed to writing letters for publication, nor am I in the habit of giving advice, but after reading such gloomy accounts as those given since the inquiry was first made, I determined to try my hand at it. And now I would say to all those who have the pluck to try to get a farm under such disadvantageous circumstances as Mr. B. speaks of, to pull up stakes and come to Illinois, where we will bid him a hearty welcome, where there are no stones to pick, nor brush to cut around stumps and in fence corners, and where, if you persist in renting, your landlord will ask one-third of the grain raised, pay all taxes himself, and furnish you with house, fuel, &c. But still a better way would be to buy a farm for yourself should it be only 40 acres. Mind, our lands are not encumbered with rock, brush, &c. But your whole 40 acres is a perfect garden spot, and all the stock you may have can roam on the prairies at large, which are covered with a luxuriant growth of grass of the best kind for either pasture or hay.

Now you will probably be ready to inquire what such land can be bought for? It will cost from \$3 to \$10 per acre, unimproved, and from \$5 to \$20 improved, and this on almost any time the purchaser may desire. The Illinois Central Railroad Company has, as you are aware, obtained from the general government a large grant of land to aid them in the construction of their road, which has been built, and hence the title is perfect. The company are selling their lands now, and thousands of just such men as your correspondent seem to be availing themselves of the liberal terms to secure to themselves homes, and

thus avoid renting lands, or in other words, becoming landlords instead of being tenants. Their terms are as follows:

Say Mr. B. buys a farm of 40 acres, at \$5 per acre—\$200. If paid in cash down, a reduction of 20 per cent. will be made—\$160, which will be the entire cost. If the purchaser chose to avail himself of the time given, it would be thus—\$200, at 6 per cent. for four years, \$12 per year—at the end of said time one-quarter of the principal comes due—\$50, which amount comes due annually until the principal is paid. Thus enabling Mr. B. to make the price of his new home from the land itself.

According to an act of our State Legislature, all their lands are exempt from taxation until paid in full, which is of itself considerable inducement at a time like the present, when high taxes stare every man in the face.

I have thus endeavored to give the outline, hoping it may lead those who are laboring so hard to become lords of the soil, to examine into the matter at least. I would say farther: This is a healthy place; good pure water is abundant; society is good.

Now, gentlemen, let me advise you to quit renting lands in New-York, or any other place where you have such hard task masters, and where the lords of the soil ask double what the lands are worth. Should you happen to ever be able to buy yourselves homes, come west; we invite you to no mean country, but to the garden of the world. This is admitted on all hands. Illinois is but an infant in years; still she is the fourth State in population, and in the amount of grain raised, and the amount of cattle and hogs the first in the family of States. We will welcome you with open arms to our broad prairies and fertile soil, and where the inhabitants are loyal to the best form of government the sun ever shone upon, where the people respond to their chief executive whenever he calls; and I will here say, and I must confess with feelings of pride, which the past proves, our people are ready and willing to leave friends and pleasant homes, and rally at our country's call. It matters little whether our quota be 30,000, 40,000, 50,000 or 100,000 men, we are ready. Old Abe is our man, and when he speaks we will respond. Our cattle are all fat, our hogs also; our granaries are full of small grain, which now command a good price. Our corn is all worked, and nothing now remains but to take it off. Our mothers, wives, sisters and daughters say, let all the men go if necessary; we will gather the corn. Thus you see we are ready. Illinois has entered into the struggle, determined never to sheath the sword until our good old flag shall wave from the Lakes to the Gulf, and from the Atlantic to the Pacific oceans.

Champaign, Champaign Co., Ill.

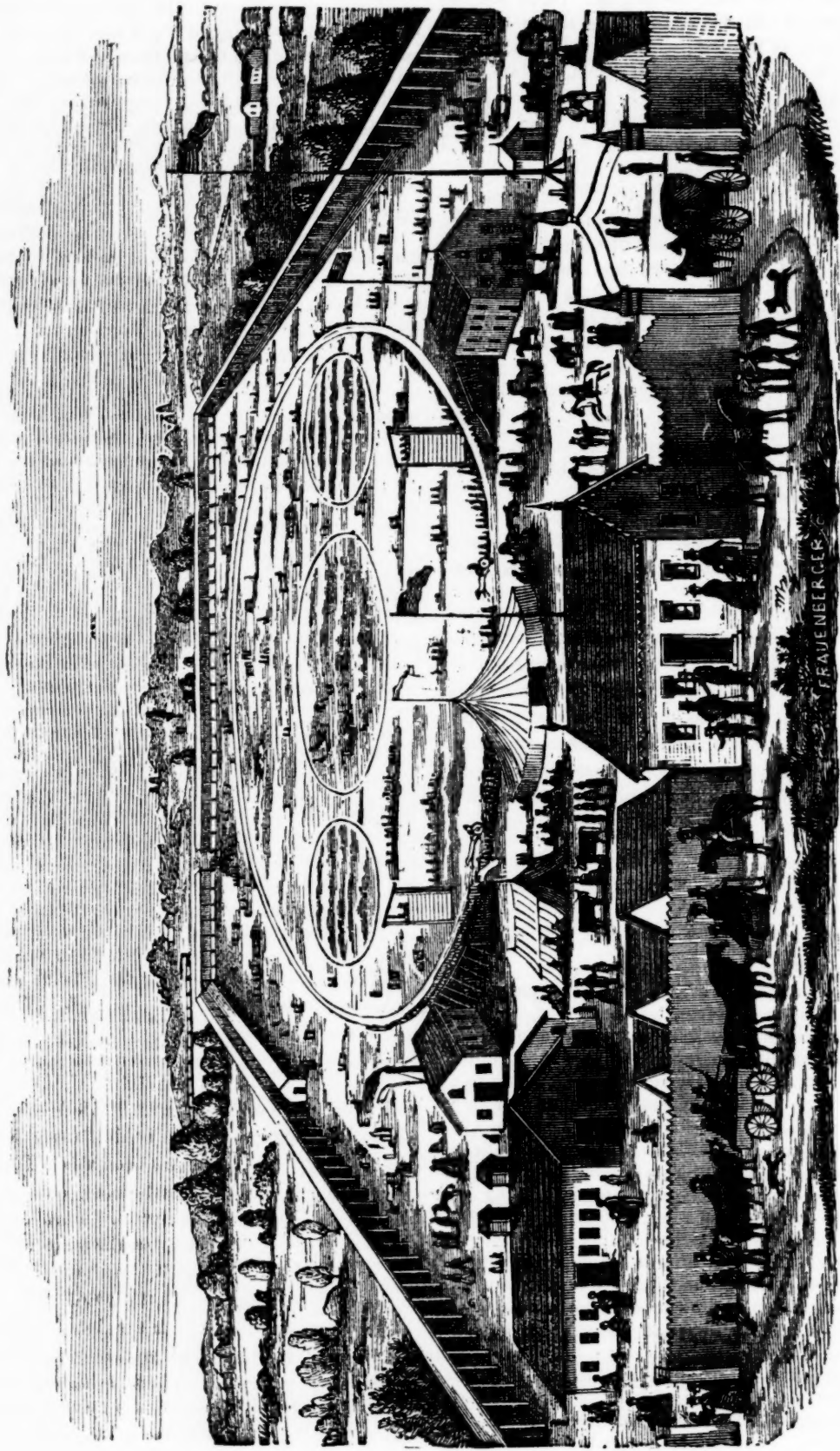
J. B. PORTERFIELD.

[For the Country Gentleman and Cultivator.]

Mode of Saving Egg-Plant Seed.

In your number for Sept. 27th, 1861, p. 207, I notice a mode of doing this, which I think more laborious than is necessary. My mode has been this. Place your ripe fruit in some vessel of small value, such as an old pail, tin-pan, or even on a large plate. Here let it rest for an uncertain period, depending on the temperature of the cellar or room where it stands, until the fruit decays and melts away to water and a little pulp. The seed may now be very readily washed from the impurities in which it is immersed. It should be understood that no common fruits, such as apples, melons, squashes, tomatoes, &c., suffer much injury to their seeds by such spontaneous decay. Few fruits are with me so uncertain in the number of their seeds, as egg-plants. I have found less than 20 seeds in a large fruit, and at other times perhaps ten times that number. In a good soil and season, with wise culture, the purple variety will usually vary from five to nine pounds in weight. C. E. GOODRICH.

Men are generally like wagons; they rattle prodigiously when there is nothing in them.



VIEW OF THE NEW-YORK STATE FAIR GROUNDS AT ROCHESTER, 1862.

[For the Country Gentleman and Cultivator.]

THE STATE FAIR AT ROCHESTER.

Plowing Match.

There were nine teams entered as competitors for the various prizes at the plowing match; but only seven of the nine entered the field. We were assured that the others were unable to learn where the plowing match was to come off. Indeed, we almost despaired of finding the field, or even the farm, where the plowing was to be done. We know there was great inquiry for the place where the competitors were to plow, and doubtless there would have been a large number on the ground to witness the skill and emulation of the plowmen, if a few placards had been posted up, telling the place where, and the time when the plowmen would enter the field. As it was, there were only about twenty men and boys present.

The field where the plowing was performed was about one and a half miles from the fair grounds, on the farm of Mr. B. M. Baker. There was quite a stiff sod on the ground, and the soil was a beautiful sandy loam, and not a stone could be found in it as large as a pea; and besides it was quite too dry to plow good and easy for the team.

Each competitor was required to plow one-fourth of an acre, or a plot about two rods wide and twenty rods in length, and to have it finished in two hours. Previous to plowing for the prize, each one was required to strike out a back furrow in another part of the field, and to plow two or three rounds on it. This gave each one an opportunity to adjust his plow, so as to be ready to plow for the prize.

At twelve o'clock, Thursday, the word was given to "go ahead," when every plowman, unaided by any driver or other assistant went around his own land, and they all finished in less than ninety minutes. One team completed the task in just sixty-two minutes. But they all drove their teams quite too rapidly, as there appeared to be some strife to get done first.

There was a premium of twenty dollars offered for the best plowing for a boy; but only one boy was on the ground as a competitor, and he was only a little short of *ONLY twenty-one years of age!* As the honest Dutchman exclaimed: "O, he wash such a nishé poy! He had such pig hands and so pig feet!"

As there was no competition, and as "the boy" did not perform the first part of his task quite equal to the requirements of the Executive Committee of the New-York State Ag. Society, the judges on plowing awarded him only ten dollars.

Question for the Executive Committee of the New-York State Ag. Society: How old must a boy be—how large—how heavy—how tall, or how long must his head be, before he can be called a *man*, or to exclude him as a competitor for the prize offered "for the best specimen of boy's plowing?" We pause for a reply.

The depth required by the Executive Committee was not less than six inches; but most of them plowed seven inches in depth—and one plow ran over eight inches in depth, and cut over one foot wide.

This was a "swing beam" plow, and it performed the poorest work of all that entered. But the fault was by no means in the plow nor in the team. Had it been properly adjusted, it would have operated as well as any other single plow in the field.

The kinds of plows used were two of the "Wiard plows," of cast iron, and two steel plows. One of these was manufactured by Remington, Markham & Co., Ilion, Herkimer Co., N. Y., and one by D. De Garmo, Rochester, N. Y., both of which did good work. Another kind exhibited a new and very important principle in plows, by which the beam could be readily adjusted to follow two or three horses abreast, equally well. This is accomplished by means of having two standards to the plow, and each one terminating at the top in a kind of foot, in which there is a slot, which receives the bolts which pass through the beam of the plow for securing it to the standards. Two

of the plows had a small plow attached to the beam, just forward of the main plow, which forward plow is called a "jointer."

One of these was the plow of D. De Garmo, Rochester, who removed it and attached a cutter in its stead, as he understood by the committee that the plow thus adjusted would not be allowed to compete for the prize. The other plow thus adjusted, was allowed to run with the jointer on it. This did the best work, and received the first premium of \$20. No one denied or doubted that this plow performed its task in a most superior manner. But it was not the kind of plowing required by the Executive Committee, and to allow one plow to operate with a jointer, and not another, created some little dissatisfaction.

The style of plowing required by the Committee was plowing "with a lapped furrow-slice." But a plow with a jointer attached, did not turn a lapped furrow-slice, properly speaking; for the turf in some places is rolled together, and left flat, while in others it is left on the edge; but at the same time, is so completely surrounded with well pulverized soil, that the entire soil appears as mellow and free from sod and grass as if it were the cross-plowing of a summer fallow. It is just the kind of plowing that ought to be encouraged by all agricultural societies; and it ought to be recognized as a distinct kind of plowing from either flat or lap furrow slices.

On the whole, the plowing was well done; and a man is not worthy of the name of a good plowman, if he could not plow well in such soil as that, with almost any style of plow. I would not appear censorious on this subject, but I do insist that it is not a fair test of either the excellence of plows, or of the skill of plowmen, to put them in a soil, *for prize plowing*, where there is not an obstruction in the soil or on it as large as a kernel of wheat. Still such a soil is almost always selected for that purpose. Could farmers always have such soil to plow, the case would be quite different.

In order to test the excellence of a plow, and the skill and dexterity of a plowman, the fairest way would be to select a variable soil, where the hard-pan in some places comes to the top of the ground, and where the plow must go through gravelly bars of calcareous clay, and then encounter stones, and then plunge into a stratum of muck. Farmers are obliged to take the hard with the easy in plowing their fields. They cannot select a smooth plot where a plow will almost run alone, and say, let us display our skill in plowing here. By no means. A man is required to drive his plowshare at a uniform depth through bars and hollows and knolls, and around stumps and stones, and to perform his work well; and if he is possessed of any skill, some of it will be snatched out, as he will often be taken off his feet if he does the work well. Such should be the soil to be plowed where prizes are awarded.

The furrows for the most part, were as straight as one could draw a line, which is a good feature in plowing; but, at the same time, is a small consideration in comparison with a given uniform depth. This latter consideration is a good test of plowing, and a far better test than straight furrows alone.

Subsoil Plowing.

After the surface plowing was completed, Wm. H. H. Burnham, East Homer, Cortland Co., N. Y., introduced a plow with a subsoil attachment. This plow turns a furrow slice as deep as desired, and a subsoil attachment follows in the furrow, and loosens up the subsoil, and leaves it in the bottom of the furrow.

It operated well with a single team; but with a double team it can be driven from one foot to fifteen or eighteen inches deep, according to the soil and the strength of the team.

I had seen this kind of plow operate in Auburn, Cayuga Co., and I am satisfied that it is a good improvement, and will prove more advantageous on some kinds of soil than to use a plow which throws the subsoil to the surface.

This subsoil attachment can be put on to any ordinary plow at a cost of a few dollars. S. E. Todd.
Auburn, N. Y.

[For the Country Gentleman and Cultivator.]

FEEDING MILCH COWS IN THE FALL.

MESSRS. EDITORS—For some years I have made calculation to have some kind of extra feed for my cows during the fall and winter. I have found much advantage in doing so, not only that by feeding well in the fall I can bring my cows into winter quarters in better condition and that by good keeping through the winter they do better the next summer, but that we get well paid for extra feed in the increase in the quantity and improvement in the quality of the butter. This I have found to be the more desirable, as "choice fall made butter" always brings an extra price, and I seldom fail of getting one or two cents a pound over the regular market price for all we make to sell during the fall and winter. Hence I make it a point to feed, as much as I conveniently can, such kinds of feed as are best calculated to produce the most and the best quality of butter, and to feeding cows for this purpose what follows will be more particularly devoted.

For feeding in the fall I find pumpkins the cheapest, most convenient and satisfactory of anything I have ever raised. I usually commence feeding as soon as the corn is cut up out of the way so they can be drawn—though sometimes, when I have a large crop, before, if the cows can run on one side of the cornfield, so as to make it convenient to feed them. I have never taken any special pains in feeding, as taking out the seeds, or cutting up fine, or cooking, but have generally fed on clean grass ground, taking a little pains to break them up well, which, by the way, I have noticed has a tendency to jar loose and rattle out more or less of the seeds. I have generally fed them just as they came, ripe and unripe, unless I had more than the cows would need while they would save good, when a part of the best would be selected to cook for the hogs. We have never had any trouble from pumpkins drying up the milk; but on the contrary, whenever for any cause feeding the cows was neglected a day or two, I was pretty sure to hear in the house, "we don't get as much milk as usual, I guess the cows don't get any pumpkins." I have heard and read considerable about pumpkins drying up cows, but have never been able to account for it in any other way than to guess that at least one of the reasons why such is the case may be found in the fact that the cows were not used to them, nor perhaps any other extra feed. I have also heard that carrots dried up cows, and from what I have known of the practice of those that held this opinion, I have come to the conclusion that if it is ever the case that carrots dry up cows, the reason may be found in the fact that such cows had never been used to them, nor any other extra food. At least am satisfied that carrots nor pumpkins never dried cows for me in a single instance, and I have fed both for many years. And I have several times bought cows early in the fall, and fed them for the sake of making butter, and in more than one instance making enough butter from sometime in September to the first of the next June, to pay for the cow.

Next after pumpkins I consider cabbages the cheapest, handiest, and best feed for milch cows in the fall. Before the pumpkins are gone we commence feeding cabbages once a day, or a part of the time, in order to make the change a gradual one. They are fed freely once a day during the latter part of the fall, and more or less the fore part of the winter. Pumpkins are generally all fed by the fore part of November, when the tops of the different kinds of root crops are fed once a day, when convenient, though sometimes cabbages are fed twice a day. But generally when root tops are gone we are ready to commence feeding some kind of roots, usually carrots. I also find it a good plan to commence feeding cornstalks as soon as grass begins to get frost bitten and dried up.

We have never had any trouble with cabbages making milk taste bad, except in a single instance, when a part of a pile of cabbages that had begun to heat and smell bad

were fed, when the milk had a nasty bad smell that made it unfit for anything but to feed to the pigs. I seldom feed cabbages, or any other extra feed, before milking. I consider cabbages excellent feed to make cows give milk, and should raise enough to have plenty to feed through the winter did I not find them more difficult to store and keep well through the winter than roots. But I shall continue to do as I have done some years back—that is, raise enough to have plenty to feed in the fall, and some for a change, or to feed occasionally in connection with other feed in the winter. *R. Western New-York.*

[For the Country Gentleman and Cultivator.]

THE CORN-HORSE.

The task of cutting up corn is always rather toilsome at best, and more so if the heavy fall winds and rains have caused it to partially fall, become crooked and twisted, and in fact, in just the condition not to stand up while shocking or stocking it, and still harder is it for the tired laborer if there chances to be a strong wind blowing, for his labors are still more difficult, and even after it is shocked, the shocks present anything but straight rows; besides not being set up in a nice substantial manner, it is very apt to lean and finally fall to the ground, there to become damaged and rotten. To obviate these difficulties a year ago this last fall I saw a simple machine constructed, which proved to be just the thing wanted, and as I have never seen a description of anything like it, I will give a description of it; and to those who have never tried it, and will give it a trial, I will warrant that they will concede a saving in some instances of at least one quarter of labor in harvesting. Take a strip of board 12 or 14 feet in length, 1 inch in thickness, and 3 or 4 in width, rest one end of the strip on the ground, and at the other end nail to it a couple of legs made of strips of boards, in same manner as the legs to a saw bench or horse, bringing this end about 3 feet from the ground, nailing a narrow strip across the legs to strengthen them. Then about 4 feet from the legs bore with an inch and a half auger a hole through the board, slipping through this hole an old broom handle or something similar; then your instrument is ready for use. Where the materials are handy, one can be made in twenty minutes. I will give a diagram, so that one can see at a glance the manner of making one.



Now for the mode of using it. Shoulder the corn-horse, take it to the fields, placing it wherever you intend to make your first shock. Cut an armful of corn, and place it in one of the corners formed by the broom handle and strip of board, being careful to give it a firm footing by jamming it up and down two or three times, and continue thus till the shock is of sufficient size to suit the taste. Cutting in this manner, the cutter has nothing to attend but simply to cut and stand up in the shock, a middle band not being needed, and the shocks will be more uniform, substantial and firm. It making no difference how much the corn may be down, you have something against which to stand the first hills, after a beginning being made, the stalks forming a mutual support. But the good qualities of the corn-horse are best seen, when the wind blows a perfect gale. (Some may say that this is no time for harvesting corn, but great expedition is oftentimes needed in cutting corn to get it out of danger of the frost.) In such a time as this, as much headway can be made as though it were perfectly still; whereas, without one it would be almost impossible to do anything at it. The corn-horse also obviates the necessity of setting round the hill, which I consider a great bother when one comes to husking or drawing to the barn, making it al-

ways necessary to bring a corn-knife or jack knife in to requisition at every shock before they can be husked or moved.

After a proper number of hills have been placed about the corn-horse, bind with two or three bands to the shock, as the height of the corn demands, the first band being placed as low down as possible, each band being formed of two dryish cornstalks, which can be selected by a little experience, forming as good, if not a better, band than either rye or oat straw, besides being a great deal handier and quicker of forming. Of course all cornstalks will not form bands; those that will are of a yellowish cast, the leaves being dryish. After the shock is bound, pull out the handle, (always having the legs or head of the corn-horse toward the corn to be cut,) step to the head of the horse, and carry it to the spot of the next shock.

Half an hour will make one perfectly familiar, besides giving him such an opinion of this simple little machine that he will never do without one, for with one he can do his work easier, faster, and better than without.

King's Ferry, Cayuga Co., N. Y.

E. A. KING.

[For the Country Gentleman and Cultivator.]

Husking Indian Corn by Hand.

Why will one man husk twice as much corn in a day as another? And why will many boys husk much faster than some men? Because, in one case, there is the exercise of much skill, while in the other there is no tact or skill manifested.

There is an opportunity to exercise a great deal of skill in husking corn, and I propose to show that the exercise of skill is highly important, in order to be a good and rapid husker.

In the first place, I will point out some of the errors in husking Indian corn, which characterize a poor husker; and then we will attend to some of the manipulations of a good and skillful husker.

A poor husker spends much time in reaching after the ears of corn, and in laying the husks and stalks aside. Some huskers will sit on a high seat or stand while husking, which position requires them to reach too far, and spend too much time in getting the corn in hand, ready to husk. While a man is stooping down to pick up an ear, a good husker will husk an ear. Picking up one stalk at a time, and placing it at one side of the husker consumes much time that ought to be spent in husking.

I will now lay down a few plain directions to be practiced in order to husk corn fast, and in a farmer-like manner.

After the stook has been pulled down, place the basket at the butt of the stalks, a little inclined towards the husker. Procure a little box for a seat, about ten inches high. If a husker is not discommoded by resting on his knees, a low seat may be dispensed with. Let the husker place himself close to the corn, so that it will not be necessary to reach far for each stalk. Now take an ear in the left hand, and with the husker or fid on the right hand, pull down half the husks. As the right hand goes down, let the left hand rise to the tip of the ear, and slip the thumb of the left hand over the end of the ear, taking off cleanly all the silk, and bring it down with the other half of the husks. Two quick motions of the hand will husk an ear neatly. As the left hand grasps the stem, preparatory to breaking off the ear, let the husks be retained in the hand, so as to protect it from becoming tender between the thumb and fore finger, where every ear of corn strikes it, as it is separated from the stem.

A quick motion is required in husking corn fast, and by following these plain directions, a man may husk much faster than he would when they are not observed. There is more science in being a skillful husker than there is in knowing how to shovel earth with ease and skill.

Assorting Indian Corn.

Many farmers never assort their corn, but deposit it all in a crib together. Those who do assort it usually haul it to the corn house or crib, and there pick out the poor.

But I have always found it the most expeditious and convenient way to have two baskets while husking, and throw all the poor corn into one basket, and the good into another. This saves much time and unnecessary labor; and when a husker becomes accustomed to assort corn as it is being husked, he will like that mode much better than to assort it after it has been hauled to the corn house.

It will always be much better for both the poor corn and the good, to assort it as soon as it is husked, and deposit the poor corn in a very narrow crib—say not more than two feet wide—or on a floor made with narrow boards, placed three-fourths of an inch apart, so that the air may circulate up through the corn. By this precaution, poor corn will cure and dry out in a few weeks, so that it may be ground for feed in the former part of winter. When all the poor corn is thrashed or shelled with the good, it is not always as marketable as it would be, were it assorted.

Making Apple-Molasses.

Select good sweet apples—Tallman Sweetings are about as good as any other for this purpose—and wash them clean, and grind them fine, and allow the pomace to stand at least thirty hours before pressing. Let it be pressed gradually, so that too much of the fine pomace may not flow out with the juice. Let it be strained slowly through three thicknesses of flannel, before it is boiled. Boil it down in a brass-kettle—which is much better than an iron one for such a purpose, as iron will color it—and remove, with a skimmer, all impurities when it is boiling. When it is about of the consistence of thin molasses, put it in tight bottles or jugs, and it will subserve a good purpose for culinary purposes; and next season, during hot weather, a few spoonfulls mingled with a small tumbler of water, will make a most refreshing beverage. S. E. TODD.

[For the Country Gentlemen and Cultivator.]

Remedy for the Bite of Rapid Dogs.

WASHINGTON, D. C., Sept. 25, 1862.

EDS. CO. GENT.—Yesterday I received from my old friend and cousin, certain datas concerning that most dreadful danger, the effects of the mad dog bite.

The most positive facts, and numerous experiments in Lithuania, near Odessa, in Volhynia, and as recently as three weeks ago, a case in Evangelice, where from forty to fifty persons were bitten by mad wolves, and yet the timely remedy applied succeeded most hopefully. A plant called *Euphorbia procera*, belonging to a numerous family of Euphorbia, very similar, but more hairy and not so glossy as *Euphorbia ulcera*, or *Euphorbia silvestris*, given in decoction, cures that dreadful scourge of one of our domestic animals.

The discovery of this belongs to Francis Wolanski, a resident in Austrian Galicia.

More complete description I will hasten to communicate you as soon as it reaches me; in the meanwhile I communicate this fact, which I deem the most important at any time.

HENRY K. KALUSSOWSKI.

THE GRAIN APHIS IN DELAWARE.—My oat crop, as well as the crops of some of my neighbors, have been much injured by the ravages of the red lice, which I suppose is only another name for the aphis. They were on my oats in such countless numbers as to give the field quite a reddish appearance. The injury they have done will reduce the crop one-half, and one person who has threshed some, told me that what he had threshed weighed only 20 pounds to the bushel. This is the first time I have seen such an insect on my oats. I am told that many of them blow over the fan while cleaning.

New Castle Co., Del.

G. S.

[For the Cultivator and Country Gentleman]

Getting Out and Curing Apple-Seeds.

Cider-mills and cider-making is suggestive of *apple-seeds*, a great staple with our nurserymen. Running water is indispensable in competing with present market rates for apple-seed. It is far better to haul the pomace a few miles to running water, than attempt to do without it, as a good load of pomace will yield one and a half to two bushels of seed. For getting out the seed, make a trough 10 feet long, 14 inches wide, sides 6 inches high, with gate at upper end; at lower end, a sieve of ordinary sieve-cloth, 3 feet long, with side pieces, and if the upper part of sieve is of finer meshes all the better. Set the trough and sieve all level—the latter to be moveable, and over a box tight enough to hold apple-seeds and yet let out the water. Absolutely fresh pomace is much preferred, as it floats off far better—a great object. Apple-pomace heats very soon after leaving the press. A slight heat is not objectionable; too much kills the seed. In warm weather pomace often spoils in three days, but can be kept safely enough by spreading thin on the ground, or subjecting to frost, and doubtless for some time by plunging it in water, which will “slack up” or loosen the pomace.

In the regular business of getting out apple seeds, breaking up the pomace is an important matter. The best mode is with cylinders, &c., made on purpose, like those of thrashing machines, and connected with the cider-mills, where, as in some cases, they are run by steam or water. Ordinarily an old fan-mill is used, taking out the fans and substituting a cylinder and bed-piece; the cylinder four or five inches in diameter, with say 50 spikes driven in the wood, and projecting two and a half inches. These cylinders any blacksmith can rig up, and the spikes cost but a trifle, one cent or so each. For a bed-piece use plank six inches wide, one and a half thick, with twenty-penny nails driven through. Set this fan-mill over your trough, through which a steady stream of water, three inches deep, should flow. On a small stream a narrower trough can be used. Sometimes stones are useful on the bottom of the trough to increase the agitation, and sometimes an inch cleat is fastened at lower end of sieve. The seed will require two or three runs through to get it clean. The second cleaning is done at close of each day's work. The pomace for 10 or 12 barrels of cider ordinarily makes one bushel of seed.

A simpler and slower mode is to use a large tub or vat, stirring up the pomace gradually and running it off the surface, while the seed settles at bottom.

Drying the seed—also very important—as when fresh and wet it is very subject to heating, which, unchecked, speedily ruins the germs. Seed from old partly heated pomace is more apt to spoil.

After the seed is cleaned, spread thin in the sun, and stir often to get the outside moisture off. Then spread in chamber or loft, with windows and doors open for free circulation. Of course, in warm, well ventilated loft, the seed spread thin would cure thoroughly and fast enough. But curing wholly in the sun is believed injurious to the vitality of the seeds. If not spread quite thin, must be stirred thoroughly two or three times a day—the oftener the better—to prevent moulding. Seed can doubtless be dried too much, but usually it is cured too little. Good, newly dried apple seed weighs 42 to 44 pounds to the bushel; older and more thoroughly dried, 40 pounds.

Seed from really heated pomace, always more or less damaged—not necessarily all bad, but unreliable—and always lighter colored than from good, new pomace. Seed when got out good at first, is made lighter by drying in the sun—or may be got out of bad quality, and darkened by drying on dusty floor. Good seed can generally be distinguished by careful examination, after breaking or cutting off the husk. If good, the meat is plump, and of a clear, pearly white, firm texture; if poor, the meat is less

firm, and of a paler dirty white or yellow, and usually of lighter weight. The best way if you are not a judge, is to get of trustworthy dealers—among whom, from long acquaintance, we rank James A. Root of Skaneateles, New-York, to whom we are indebted for the foregoing directions, and who can find plenty of other endorsers to the quality of his seed. As to facilities there for getting out seed, it may be remarked that one cider-mill alone, near him, running by water, turns out 2,800 barrels of cider per year, when fruit is plenty.

And now for a hobby of ours. Why don't every one that can, *select his fruit for seeds*—especially in the North and West, where the climate is so severe—and get only from the most vigorous, hardy, productive, perfectly formed seedlings? “Like begets like,” and it cannot be doubted that a few experiments of this kind would settle the matter as much in raising improved apple-stocks as horses or cattle. F. K. PHENIX. *Bloomington, Ill.*

[For the Country Gentleman and Cultivator.]

AGRICULTURAL ITEMS FROM MAINE.

THE GRAIN APHIS.—These insects appeared in many localities—probably in as many as last year—this season, but were ten to fifteen days later than last year. Soon after they began to increase rapidly upon the oats, wheat, and barley, heavy showers and high winds almost entirely destroyed them. I say showers and winds destroyed them, because they disappeared immediately after them, and there were but a few to be found again. In 1861, I found them, July 25, on wheat then beginning to turn, in great numbers, and they continued to increase till the grains were all ripe.

POTATO RUST AND ROT.—About the 15th September I detected a spot of *rot* on an early potato that was cooked. The rust proper had been on the tops for some time previous to this in many places, and had been noticed to be steadily spreading. For some days, no one was seen who had observed the rot, but had the rust. Since the 20th of September the complaint is on nearly every one's greetings when met, though it has come so late that it is not thought it will be very extensive. They looked remarkably well till the rust came, but will be rather a light crop, because it has not been wet enough for them to set well, either early or late planted ones, yet the breadth was more than an average for some years.

FROSTS.—There were in Franklin Co., in August, three (and in some places more,) on the 18th, 24th and 31st, all doing some damage, but the last the most. September gave two, on the 22d and 25th, still harder, yet not more than half of the corn and vegetables are killed, though the corn was materially checked.

THE SEASON.—We are inclined upon the first thought to say “it is the driest or the wettest that I ever knew,” if it happens to be a little dry or wet at the time we would wish it to be a little different weather. But after all we here have had a dry and cold season. The spring was dry—a drouth; the summer was dry and the autumn is dry so far, that is, up to October. September has been very fine weather for corn, and for harvesting the grains.

LABORERS AND WAGES.—It is a little difficult to obtain all the help wanted in agricultural circles at all times, while wages have been higher by the day, month or six months, than for ten years at least. This has given the day laborer, who has a family to support, plenty of work and good pay, which has generally been well improved, and the farm-work with machinery has thus been kept up to time. O. W. TRUE. *Franklin Co., Maine.*

☞ The Indiana State Fair, judging from an account in the *Prairie Farmer*—the only one we have seen—appears to have been quite successful. It was held at Indianapolis, Sept. 30—Oct. 3. The receipts were sufficient to meet premiums and expenses.

CONNECTICUT STATE FAIR.

We had the opportunity of being present during the last day of the Connecticut State Fair at Hartford. The exhibition was in some respects a good one. The attendance of people, then, and as we were informed during the previous days, was very poor. This was ascribed to various reasons, but we much regret that it should have been the case. Undoubtedly the farmers of Connecticut will themselves regret, hereafter if they do not at present, that they have not accorded a more constant and generous support to their State Society.

Among the Live Stock, we saw nothing more attractive and pretty than the herd of Ayrshire Cattle exhibited by CHARLES M. POND, Esq. of Hartford. Mr. P. was quite seriously injured by one of his bulls a few days before, and unable to be present. Seven of the cattle shown by him were imported, and one or two of those of his own breeding were marked by unusual excellence, and proved that he is well able to put to good use the judicious purchases he has made from abroad. Other exhibitors of this breed were Messrs. Byron Loomis, Suffield, H. S. Collins, Collinsville, and A. L. Collins, West Meriden.

Among exhibitors of Devons were Messrs. S. & L. HURLBURT of Winchester Center, so long and favorably known in connection with this useful breed; and the twenty-five stalls they filled, young and old together, were what might have been expected from their experience. We learnt from Mr. Hurlburt that he proposes going to England at an early date in order to secure fresh blood from the best sources. The Devons, as usual in Connecticut, were very fully represented; cattle being shown by Linsley Brothers, West Meriden, E. H. Hyde, 2d, Stafford, T. S. Gold, West Cornwall, James A. Bill, Lyme, B. S. Andrews, Waterbury, J. N. Blakeslee, Watertown, and others.

MESSRS. JOHN A. TAINTOR of Hartford, and JOHN T. NORTON of Farmington, were the principal exhibitors of Alderneys. There were some good Short-Horns from Timothy Mather, S. W. & D. G. Ely, Newton Carter, Vail & Smith, Thomas Cowles, Farmington, E. A. Phelps, Avon, and other Connecticut breeders, and one bull from S. R. Bowne of Flushing, N. Y. The show of Working Oxen was said to be good, but we saw only a small part of it. We also heard the display of *Horses* well spoken of, particularly the exhibition made by Mr. GEO. C. HITCHCOCK of New Preston, who showed the stallion "Ashland," bred by Jas. B. Clay of Kentucky, with no less than ten of his colts, also the mare "Highland Mary," noted for her speed, and six or eight other fine animals young or old. We did not see anything of the *Swine*, nor much of the *Sheep*, in which latter class the Long and Middle Wools appeared rather to have the preponderance. Jas. A. Bill, Lyme, T. S. Gold and T. S. Hart, West Cornwall, A. H. Porter, Bloomfield, and Stanly Griswold, Torrington, were exhibitors.

The display of *Fruit* was very large and good, including apples, pears, peaches, and grapes, from a longer list of contributors than we have room to chronicle. Among them were Ellwanger & Barry (Rochester) and W. Brown Smith (Syracuse) of this State, as well as the most prominent nurserymen of Connecticut, and a good representation of her most successful amateur horticulturists. The general appearance of the fruit, as is this year so generally the case, was extraordinarily fine.

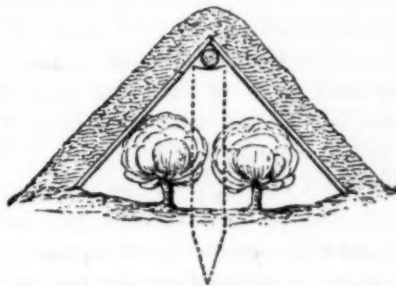
Among the *Implements* there was a good deal that was

valuable and interesting. A trial of Mowing Machines was held Friday morning, on a farm near by, but we did not learn its results before leaving. Among the competing machines we noticed Allen's new one-horse mower, which cuts a three-foot swath without apparent exertion to the horse,—also the "Buckeye" and other prominent machines. Mr. H. C. Hepburn was present with Evans' Rotary Digger, which has been reduced from its once cumbersome proportions, and now looks as though it might do excellent work, to the width of twenty inches, without unduly fatiguing the team. Mr. H. promises a careful field trial of this implement before long, which if possible we shall attend and report.

As a whole the Exhibition, excepting only the attendance, was thus a very creditable one. The number of entries was, of Cattle, 324; Horses, 150; Sheep, Swine and Poultry, 165; Agricultural Implements, Vegetables, Grain, &c., 183; Domestic Manufactures, 106; Cotton and Woolen, and other articles of American manufacture, 106; Horticulture, 398. Total, 1,512. We are sorry to have to add that there were so few present on Friday, when the address was to have been delivered, by Prof. JOHN A. PORTER of New-Haven, that the Executive Committee deemed it wise to omit this part of the proceedings, and Prof. PORTER was therefore requested to attend the Society's next Annual Meeting, where a fuller and more appreciative audience will probably await him.

HEADING CABBAGES DURING WINTER.

It often happens that many cabbages have not formed heads in autumn on the approach of winter, and these are usually rejected and thrown aside. The mode we have adopted to produce heads from these has been long known to some of our readers, but we discover that it is rarely practiced. A brief description may therefore be useful: Take up all these plants and set them as closely as they will stand in a double row, in their natural position, in a



wide and shallow trench. Form an earth roof over them in the following manner: Set in a piece of upright plank at each end to support the ridge pole (shown by the dotted lines in the figure.) Place a rail or stiff pole on these for the ridge pole, and on this the ends of the short pieces of board in the form of a roof. Cover these boards with about six inches of earth, or enough to keep the soil from freezing in which the cabbages stand. This is the whole operation. Nearly all of these will be handsomely headed by spring, and being entirely excluded from light, they will be more delicate both in appearance and flavor, than common cabbage heads. Two hours labor last autumn, gave us a fine supply of cabbages for a moderate family nearly through the whole spring.

Failure has sometimes resulted by not covering the roof with sufficient earth to keep out severe cold. About six inches does well for the Northern States. A sheltered place is best. We have allowed a very small ventilation at the ends, but have not experimented with a view to discover how much is best.

Fruit Growers' Society of Western New-York.

The Autumn Meeting of this vigorous association was held at Rochester on the 30th ult., with its usual full attendance. It was chiefly occupied with the discussion of Grape Culture, Fire Blight, Peaches for Market, &c.

Some splendid fruit was on the tables, among which were observed specimens of Louise Bonne of Jersey three inches in diameter, and four and a half long—beautiful bunches of Hamburg grapes 10 inches long, and White Nice a foot long—berries of Wilmot Hamburg averaging a full inch in diameter, &c. C. H. Rogers had fine specimens of Muscat Hamburg, that were pronounced by several, the best grape they ever tasted. Most of the fruits were, however, on exhibition at the State Fair Grounds.

Native Grapes.

G. Ellwanger said that he had cultivated the Hartford Prolific six years—it had been increasing in favor, and the present year it stood higher than before—for general cultivation, he placed it first on the list. It did not mildew so much as the Isabella. The Delaware, for wine making, he thought the only variety that could be used without sugar; and it is of much finer flavor than the Hartford Prolific. C. Downing said a neighbor had very successfully grown the Concord, but it would not succeed with him. The Delaware grew and bore better—so much for a slight difference of locality. He thought the Creveling a much better grape than the Hartford Prolific, although a few days later. The latter is too liable to drop. C. L. Hoag of Lockport, had changed his opinion somewhat by the results of this year. The Delaware he regarded as the best; the Hartford Prolific has increased in favor—it produces twice as much as the Concord. When the vine grows vigorously the berries scarcely ever drop—on shoots of slower growth this difficulty becomes quite an evil. He regards the Isabella as especially valuable for keeping in winter. The Delaware, Hartford Prolific and Diana he found not to keep well. H. S. Ainsworth considered the Hartford Prolific as unquestionably the best *very early* grape we have, and there its merits end. As soon as other and better sorts ripen, it becomes of little value. It will not keep long. The Delaware he regards as the finest variety, and if, as he supposes, it will keep in winter, it is the most valuable sort for market. He thinks it decidedly superior to the Hamburg for flavor. He likes the Concord better than the Isabella, although the “after taste” is not quite so good—he said the superiority of the Concord was owing to its complete ripening, which is rarely attained by the Isabella. He stated that the reason that Naples, at the head of Canandaigua lake, had been so successful for the culture of the grape, was the sheltering influence of the surrounding hills, and the porous nature of the subsoil effecting perfect drainage for many feet in depth. Dr. Miner of Honeyoye Falls, said the Delaware with him had proved quite as early as the Hartford Prolific; had ripened this year two weeks ago. The Diana had proved the best keeper in winter—the Delaware did not keep so well, but dried up like a raisin. L. F. Allen of Buffalo, said that five years ago, when here, everybody spoke in the highest approbation of the Isabella—he was satisfied then that opinion would change—the berries scarcely ever ripened—they are excellent as far south as New-York city, but we are too far north for them. On hearing newer and early sorts coming into favor, he was satisfied the earth moved some. He thought much depended on climate, position and soil—

and each variety must have a locality adapted to it. On Kelly's Island near Sandusky, the soil is clay, on a porous limestone, where the drainage is perfect, and so favorable are these influences, that even the Catawba ripens there better than at Cincinnati. As for manufacturing wine, he had for several years past been on different wine tasting committees in various cities, and he had never yet tasted a bottle of good American wine, (except it be the sour Catawba wine;) all he had ever seen was mere syrup, “fit only for women to drink,” he added. Daniel Webster had pronounced such wines as simply a mixture of “vinegar and molasses.” C. L. Hoag said that he placed away a box of Delaware, for winter, but they were overlooked and not observed till summer—they were then dried up, and made quite good raisins. He therefore thought there was enough sugar in them for wine making. C. Downing said no grape kept as well as the Rebecca. Reference having been made to the Ontario, C. Downing said it was identical with the Union Village, very large, ripens with the Concord, about equal in quality, and the vines tender. J. Salter had fruited the two, and considered them quite distinct. Dr. Beadle of C. W., had found the Ontario a very little earlier than the Isabella, and not quite equal to it in quality. E. Moody of Lockport, had visited the original Ontario vine; the owner had some way of hastening maturity, either by ringing or otherwise, and he thought the recommendation of its early maturity should be taken with considerable allowance.

Culture and Management of the Grape.

SUMMER PRUNING. G. Ellwanger prefers disposing of the laterals by the middle of summer, leaving two or three leaves each. He would not touch the tops till the first or middle of September; if removed sooner, the vines would be sure to sprout again below. The heavy pruning should all be done in November, if covered—if not, not till March.

Manures for the Grape.

De Wolf of Wyoming, uses barn-yard manure exclusively; applies it well rotted to the surface. He uses all the unleached ashes he can procure for applying to the soil of his vineyard. Is strongly opposed to the use of dead animals, but could not state any facts on this point, except that he “thought” he could taste them in the grapes. — Wolcott of East Bloomfield, had planted a vineyard, and buried 30 or 40 tons of dead animal matter, on about three acres, or equal to about five sheep under each vine—but considered it important to have them *well decomposed*—when thus decomposed they proved very useful. B. Fish had placed portions of dead animals mid-way between the rows, and found no inconvenience, nor perceived any bad taste. G. Ellwanger would not manure at all if a good fertile pasture could be procured for a vineyard. He had made a great mistake in manuring his vineyard—the vines now always grow too luxuriantly. He said that Dr. Grant had recommended a mode of trenching and manuring that cost *fifteen hundred dollars per acre*, and it was all money thrown away. The Delaware might require some surface manuring applied in fall. Some ashes, occasionally, would be useful; but it should not be excessive. E. Moody of Lockport, agreed fully with G. Ellwanger, and thought it was a fatal error to manure vineyards. — Quail, said he commenced with manuring the soil, but he had since become convinced that this was the wrong course—he would not even use barn-yard manure. On the highest and poorest ridges of his vineyard, the grapes were the best and most abun-

dant. Manured vines grew luxuriantly, but did not bear so well. Good surface cultivation should be constantly given. In preparing a border, for *house grapes*, some of the members stated that they used manure abundantly, with liquid manure added, but the most experienced grape raisers in the open vineyards were of the opinion that the two modes of culture required opposite kinds of treatment, so far as manuring is concerned. J. Salter said he had found that the roots of house grapes would never enter the flesh of dead animals, until it was perfectly decomposed—they would either turn away, or cease growing toward it. G. Ellwanger said a great detriment occurred in attempts to overcrop the vine, Black Hamburg in particular. Sometimes two crops are spoiled by a single attempt of this kind. [J. Salter exhibited wood of the Ontario and Union Village, but members were unable to perceive any clear and distinct difference. He also exhibited Crevelling, Logan, and Taylor's Bullit. The first was excellent, the second tolerably good, and the third barely tolerable.] C. Downing added to his former remarks, that he had obtained the Ontario and Union Village from various sources, had fruited them repeatedly—and they always proved identically the same.

Fire Blight.

J. Harris of the Genesee Farmer, stated that Dr. Berkeley of England, the great cryptogamic botanist, had discovered that minute fungi had destroyed green-house plants, and he expressed the opinion that the fire blight here resulted from a cryptogamic plant, in its ravages in this country. The subject excited much interest and a good deal of discussion, and was commended for further investigation.

C. Downing said that fire blight was no new thing—that forty years ago his father's orchard was more severely affected than he had ever seen any since—that some trees had to be repeatedly cut back, while in others it had been checked at once. P. Barry said that one of the best remedies to prevent permanent disaster was to plant two trees whenever one died—that by pursuing this course when they had lost largely by this disease, they had without difficulty kept up the full numbers of all their orchards.

Peaches for Market.

H. N. Langworthy said that more money could be made on late peaches than on very early ones—that they could be more safely marketed, and sent to longer distances without loss. The best very early sort was Serrate Early York—next Crawford's Early, which he thought the most valuable of all peaches. The Geo. IV, Large Early York, Kensington, &c., had ceased to bear well; the crops were killed and they had become unreliable. The best substitute for all these is Cooledge's Favorite. The next, a rather late sort, is Oldmixon Freestone, but of late it has become unreliable as a bearer. The Late Crawford, an excellent fruit, has nearly ceased bearing; has run out in this climate. E. Moody agreed with Langworthy in some sorts, but would like to show him his Late Crawfords—they are very large and fine,—he had lately measured a peach that was ten and a half inches in circumference. He would plant at least one-half of an orchard with Late Crawford, although usually a moderate bearer. With most kinds, a great error is committed by not sufficiently *thinning out the fruit*—the trees are injured when allowed to overbear, and the fruit is far inferior in quality. The present year he had received a dollar and a half for his thinned peaches, while a neighbor, without thinning,

received only from three to four shillings, (one-fourth to one-third,) while the amount of the crop was about the same in both cases. The thinned and large peaches could be picked in far less time—one man had picked 80 baskets of peaches in a day. He manures only as the trees advance in age. He thinks after trees have borne three years, it is best to pull them up, and plant new. [In reply to an inquiry, he said he had a fine stock of trees for sale.] G. Ellwanger, on being inquired what he thought of this frequent planting, said, "I have no remarks to make. I will leave it to Mr. Moody—we have not not many trees for sale!" E. Moody added that the best way to market peaches, was to fit up a car with shelves, to receive the baskets, instead of placing them in piles, as when sent by Express, by which they become badly bruised. H. N. Langworthy said that boxes were usually regarded as best, as obviating the necessity of shelves; to which Moody rejoined that boxes were only preferred because they admitted piling, but the best of all ways was to place them in baskets on shelves.

[For the Country Gentleman and Cultivator.]

EXPERIMENTING IN BEES—No. 3.

Two objects were particularly desirable to obtain:

1. The greatest amount of honey. It is not an object to keep a large number of bees if little honey is secured, and one colony giving 37 lbs. annually, is worth more than twenty giving none, but simply living from year to year, unless there is market for the bees themselves. But twenty swarms giving 37 lbs. each, would give for the trifling outlay quite a handsome sum; and a hundred colonies would afford a handsome income.

2. The honey secured should be the earliest gathered, and best from white clover. Honey from white clover is as much pleasanter than honey from buckwheat, as maple syrup is pleasanter than West India molasses, and in market is priced accordingly.

3. An increase of colonies by the will of the proprietor, at a time best calculated to subserve the foregoing objects.

4. Early in the progress of my experiments, I thought it very desirable to secure the means of as near a perfect inspection of the bees in the hive as could be secured.

To secure the above objects, I have so prepared my hives and boxes as to give ready ingress to them; and boxes in sufficient size and number occupying the upper and side chambers to double the capacity of the hive, giving with the boxes about 4,000 cubic inches. With this room, at the commencement of the season, there is but little danger of swarming, and no bees cluster outside of the hive. The whole find employment, in hive, boxes or field; and thus, by storing most of the honey, save that necessary for the brood, in the boxes, they are filled in the early part of the season, the second object is secured; the honey is the early gathered and best. Whether an average of 37 lbs. every season of white clover honey from every June swarm, and 20 lbs. from each July swarm, would meet the anticipations of skillful apiarians, I do not know; but it has been somewhat gratifying to me in my ignorance, feeling my way along, by experiment. Starting without bees, my swarms have been purchased, and have paid the expense of the purchase by the first year's honey.

To secure the increase of colonies if desired, when desired I have so prepared my hive as to secure at will, with trifling trouble, an equal division of the swarm, comb, brood, and honey.

I have secured the fourth object, inspection of the swarm, by glass covered by doors front and rear, by an inclined adjustable bottom-board, and by glass boxes, thus subjecting to inspection almost the whole work.

JASPER HAZEN.

Albany, N. Y.



A GOOD APPLE PICKER.

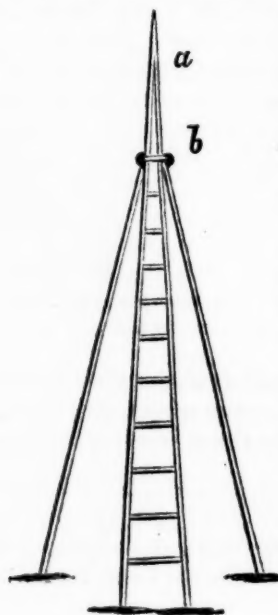
We have tried a number of experiments with different kinds of fruit pickers—baskets with hooks, baskets on poles, canvass tubes, &c., but we find nothing so convenient and perfect as the one represented in the annexed cut, for at least nine-tenths of the crop, if suitable ladders are provided. For the remaining tenth or twentieth, the pole and sack represented on page 225 of current volume of COUNTRY GENTLEMAN, is best for reaching the ends of branches and other inaccessible places.

The simplicity and cheapness of the fruit-picker here figured are a strong recommendation. It is merely a common grain-bag, with one corner of the bottom tied to one corner at the top, and slung over the workman's left shoulder. A stick, sharpened at each end, and about a foot long, props the mouth open, leaving a triangular opening, into which the apples are thrust as they are picked from the branch. The way in which the lower and upper corner are most conveniently tied together, is by placing a small stone or pebble in the lower corner, (to form a sort of button,) and then passing the bag strings

around closely above it, and tying them firmly. A piece of stiff leather, buttoned on to the shoulder, serves to protect it from becoming sore if the picking is continued several days.

In most cases the operator may stand on the ladder, and use *both hands*, thrusting the fruit rapidly into the open mouth of the bag, which is gradually raised up a little over the shoulder as it becomes filled. Over half a bushel may be placed in it at a time, without becoming inconveniently heavy, and the time for filling it once is not usually over five minutes.

Fruit gathered in this way is



less liable to become bruised than when baskets are used, or in any other way; and when the bag is filled it may be placed on the very bottom of a barrel in emptying, without that rattling and contusion caused by inverting a basket.

A common light ladder will enable the operator to reach nearly every part of the tree; and a standing ladder, as in the figure, will render nearly all the ends of the branches accessible.

PROTECTION FROM THE CURCULIO.

A New-Jersey correspondent (C. of Morristown) furnishes the COUNTRY GENTLEMAN with a remedy for the attacks of the curculio, which may be cheaply and easily applied, and which, if future trials shall prove as successful as the one he details, will prove of great value to all growers of fruit subject to its attacks. He says:

"Experience has demonstrated with me that gas lime (which can be obtained at any coal gas works) is a sure protection from the attacks of the curculio. I commenced scattering it among and upon several plum trees, while in bloom, and continued the application immediately succeeding a rain, until the fruit had attained sufficient size and hardness to resist the attack of the insect. On the trees thus treated (Aug. 4) I found only three plums stung, while upon the trees adjoining and contiguous thereto, and not treated with the lime, nearly all the fruit was stung. From the trees thus treated we gathered a large and excellent crop—from those not treated, we gathered none; the fruit did not mature."

[For the Country Gentleman and Cultivator.]

A SUGGESTION ABOUT POTATOES.

Do not our farmers, as a general rule, save the present crop of potatoes at the expense of the future? Without discussing or expressing an opinion as to cause of the potato disease, is not the reflection that the *earth* is the *natural bed* of the potato, worthy of consideration in reference to the preservation of this crop? What would be the effect upon succeeding crops if it became the custom not to dig the potato in early fall, but allow the crop to remain in the mother earth until the frost admonishes us that winter is about to turn the key in Nature's lock, and fasten up earth's treasures in its icy folds.

For the last four years I have pursued that custom—only digging for daily use, or for market as required, and allowing the crop to remain in the ground until long after the fall rains, and even until frost has hardened the upper crust of the ground, and I have yet to see a diseased potato in the cellar. It may be that they rot; if they do, it is while they are in the ground, and better rot there than in the cellar. C. Morristown, N. J.

[For the Country Gentleman and Cultivator.]

Good Crop of Onions.

EDS. CO. GENT.—I have just learned from Mr. Benjamin Huntingdon, that he has gathered 626 bushels of onions of superior quality, from *three quarters of an acre of land*, the present season—which is a very good product for any season, but remarkable at this time, giving assurance that there may be still hope of growing the onion to advantage.

J. W. PROCTOR.

South Danvers, Mass.

Youth and the lark have their song for the morning, while age and the nightingale have theirs for the evening

[For the Country Gentleman and Cultivator.]

Winter Management of Breeding Ewes.

MESSRS. EDITORS—Commencing with that breed that is best adapted to your locality and wants—first, every fall weed your flock by throwing out the poorest ewes, and fat them, replacing them with selections from your ewe lambs; in so doing you will annually raise the value of your flock to a very great per cent.; and, unless you can resist tempting prices for your best breeders, you will not succeed in your vocation.

Breeding ewes should be kept in open sheds facing the south and east, and at the same time be protected from the searching winds from the north and west.

Separate them into yards of 25 each of coarse wools—35 of middle or 50 of fine wool.

Feed not less than three times a day—twice a day with hay, and once with grain; grain in straw, or roots, according to your facilities.

I feed my ewes twice a day with good hay, and once with unthrashed oats—(the straw after being picked over in racks goes for bedding the sheep,) at the rate of an average of one pint per day through the winter, commencing with a gill or half pint, and gradually increasing it as the ewes near their time of lambing, at which time it should reach a pint or more, according to the size, age and condition of the ewes.

I do not believe it pays to thrash, and much less to grind oats for sheep, unless it be for a few days in spring, when first turned to grass.

Twice a week I omit the oats, and in its room feed roots, (but in excessively cold weather feed their usual oats,) thereby preventing the stretches, which disease is comparatively unknown in England, on account of turnip feeding.

Formerly I lost from one to three per cent. of my sheep every winter with this disease, by reason of confining them on dry feed, but latterly have not had a case.

Oats is the best grain for breeding ewes, as it develops the frame-work of the lamb, or in other words is a bone and muscle growing feed, while corn or oil meal is best to fat sheep; and such food would grow in the undeveloped lamb an undue amount of fat, in proportion to the frame-work or bone and muscle of the lamb.

Lambs from ewes excessively fed on fat-growing food, will be deficient in bone and muscle, and literally loaded with fat at the expense of bone, muscle, and wool, and not possessed of sufficient strength to ever stand.

The complaint of oats fed to breeding ewes, as injurious to their lambs, is "more cry than wool."

An acquaintance feeds a bushel of oats per day through the winter to 27 ewes with good success. This spring he raised from 20 of them, 32 lambs. If he had fed the same amount (not of measure, but amount of nutriment,) in oil meal, I would venture to say not one of the lambs would ever have got up, they would have been so loaded with fat, with weak bone, and comparatively no wool.

Sheep will habituate themselves to stay where they are fed, so feed in dry weather in the yard, where they can get exercise, pure air, and the sun. The latter is as necessary for the health of an animal as it is for a plant. In stormy weather feed in racks, either stationary around the ends and back side of the sheds, or movable ones in the centre.

Salt should be constantly kept before the sheep, in a box nailed to one corner of the inner side of the sheep-shed, and if your sheep are ticky, mix sulphur at the proportion of one-third to two-thirds salt, but good feeding is a sure preventive. Ticks will not thrive on fat sheep.

Keep your breeding ewes well bedded with straw, and by all means remove the manure from the sheds as often as there is a thaw in the winter, as the ammonia from sheep, and especially of horse manure, is positively injurious to them, and though disease may not appear in the ewes, yet it will count on their lambs.

We would earnestly recommend feeding at regular in-

tervals. Order and regularity is as beneficial to the lower animals as to man.

Especially feed the ewes well while the ram is serving, so as to start a vigorous germ, and keep up that feed, or the growing germ, instead of growing with their growth and strengthening with their strength, will when dropped, though possessed of good size, be deficient in vigor and vitality.

Use none but strong and healthy rams of good age, avoiding, if practicable, a ram lamb or an aged ram; and feed him liberally on nourishing and bone and muscle reducing feed, but not excessively on fat-producing feed.

Separate the ewe from the ram after being served. From 25 to 40 ewes is enough for each ram.

I know of a case last season, where one ram was permitted to run with 110 ewes; the last flock of 25 lost 36 per cent. of their lambs—they had not strength enough to get up, though from ewes strong and in good condition.

We could mention a party in an adjoining county, whose spirit of improvement for purchasing imported South-Downs we heartily commend, but who the first season permitted his ram to serve 200 ewes, thereby producing a family of Downs deficient in size and vigor, leading parties to suppose such breeding to be a fair representation of this deservedly popular breed of sheep, thereby seriously injuring the breeding of Downs in that section and surroundings for the next generation.

Seed animals of all kinds should, if practicable, be acclimated before being used. Last year I rented a ram imported the same season, and not one of the 25 ewes he had access to, proved in lamb by him, though elsewhere he had proved himself a sure getter. We learn that quite a per centage of the mares in this vicinity, served last season by a seed horse not acclimated, proved not in foal, though he was reliable elsewhere.

If you wish to have large and strong ewes, do not breed from them till they are two years old.

By all means select the best rams you can find, even if your unprogressive neighbors laugh at what may seem to them extravagance in you.

Remember the price you pay for a good ram is not what he is worth for mutton and wool, as estimated by an unprogressive farmer, but for the present and prospective good he is capable of producing in your flock, according to the amount of purity of blood, or purity of breed, which you wish to infuse into your flock.

Stanstead, Canada East, Sept. 29. GEORGE BACHELDER.

A \$3,000 SMOKE HOUSE.—We met with an intelligent and economical gentleman at the State Fair at Rochester, who had just built a *three thousand dollar smoke house*! He was induced to do so for the following reasons: Finding, many years ago, that the habit of smoking tobacco was injuring his health, he discontinued the practice, although it cost him many a severe effort. He was subsequently encouraged, however, at the pecuniary saving it was constantly effecting. By an accurate arithmetical calculation, he ascertained that the daily cost of segars, with annual interest, and compound interest, that is, with the interest placed out again on interest, would amount to over three thousand dollars in twenty years. Having already effected this saving, he concluded to build a handsome dwelling. His friends often inquiring, "How can you afford to build so good a house," he invariably answered, "This is my *smoke-house*—the amount I have saved in not puffing \$3,000 to the winds."

SKUNKS VS. RATS.—Mr. Gregory of Marblehead, Mass., in the N. E. Farmer, expresses the opinion that rats and skunks will not occupy the same barn together. We cannot see as his experience *proves* it, though it has a look that way. We are quite sure that skunks have failed to drive the rats from our barn; or if they have, that they are returning since it has been filled with our grain crops. Rats and mice unaccountably leave their haunts, but we have no certainty that they will not return again. B.

[For the Country Gentleman and Cultivator.]

Thorough Pulverization of the Soil.

As a general rule farmers are not yet fully awake to the importance of having the entire soil reduced to a fine powder. Hard lumps of earth, even when they are full of rain-producing substances, are of but little more value in producing a crop than the same amount of stones. The roots of plants cannot enter hard lumps of earth, and before such lumps can be of any real benefit to plants, they must be broken down, mechanically, with some implement, or be dissolved by rain.

In order to appreciate the importance of thorough pulverization of the soil, we need to have a little spattering of the theory of "vegetable nutrition."

How do plants grow? How does the hard soil and dry manure become changed into plants of any kind? These are important questions which every farmer should understand well; and then he would be able to appreciate the importance of more complete and thorough pulverization of every kind of soil.

No soil or manure can promote the growth of a plant—except mechanically—until after it has been dissolved by rain or water, and reduced to a liquid. Dry earth or dry manure cannot enter the roots of plants. Roots of grain, grass and trees feed upon nothing but liquid or fluid. When we apply bonedust to plants, rainwater must first dissolve the little fragments of bone, and carry them along where they will be taken up by the thousand mouths in the little roots of the plants. So with the hard soil, and hard lumps of earth, they must be reduced to a fine powder by some mechanical operation, and then the rain will dissolve the fine particles, thus forming a fluid, which is the food of plants.

When the soil is very lumpy the atmosphere has but a small surface, comparatively, to act upon; therefore plants grow slowly where the entire soil is one complete clod, or is little else but lumps.

These few thoughts lead us to discuss in a practical point of view,

The Philosophy of Plowing.

Were we to interrogate a thousand farmers, "Why do you plow?" the answer would probably be, "For the purpose of rendering the soil more mellow and porous."

This is correct as far as it goes, but the chief object is to reduce the soil to its greatest degree of fineness, or comminution of particles, *mechanically*, so that the rain, or water applied by hand, may readily change the elements of fertility in the soil from a solid to a fluid, in which state only those elements are available as food for plants of any or every kind. Therefore by reducing the soil very fine, by some mechanical operation, such as plowing, its solidity is in a measure overcome or destroyed, and the roots of plants find little hindrance in ramifying throughout the entire mass that has been broken up. And if the roots and little spongioles occupy the entire soil, the ten thousand mouths of these roots are ever open to drink in those substances, which will promote the growth of the plant. On the contrary, if a large proportion of the soil is in the form of lumps, or is turned over in furrow slices of one unbroken mass, the soil is not in the best, nor even in *good* condition to promote the growth of those plants that occupy it.

Now the idea is in plowing to use those plows that will break up the solidity of the soil most thoroughly and effectually. Turning the soil upside down, as if it were a huge slab of earth, does not accomplish the desired purpose, as its solidity is not destroyed, except in a very limited degree.

Every observing farmer knows that when calcareous and aluminous soils are not too dry, nor too wet, if they are plowed with a kind of plow that leaves the furrow-lice on its edge, the pulverization will be about as

thorough and complete as it can be made with a common plow; whereas, if such soil be plowed when there is only a little too much moisture, or not quite enough, pulverization is only partially effected, and consequently it is not possible that the crop should be as great as it would be had the pulverization been more complete.

These thoughts lead us to speak of

Fall Plowing as One of the Most Effectual Means for Thorough Pulverization.

After a soil has been broken up, it soon commences to run together again, and to *set*, very much as mortar does, which has been made of lime and sand; and to assume a solid and almost organized form. In this process almost every particle of the soil that has been plowed is moved, more or less; and much of the soil is separated and moved several inches from those parts, with which it has long been in contact. This operation is effected by rain and sunshine. As a matter of course, this change in the position of the particles of the entire soil, does much towards securing thorough pulverization.

Frost-freezing and thawing of a soil, exerts a very important influence in securing the complete pulverization of all soils. But when a soil has been plowed several months before the time of frost, it becomes consolidated, and the frost will not exert half the influence, in its more thorough pulverization, that it would were it but recently plowed.

For this reason, plowing early in autumn—where thorough pulverization is the chief object—will not be as effectual as late plowing, or even plowing in the winter. If the rains and frosts of winter can be in operation, when a soil is running together, after it has been plowed, the pulverization will be more thorough and complete than it would be under any other circumstances. And more than this, the more complete the pulverization is, the longer that soil will remain mellow and porous; and consequently, the greater will be the available amount of fertilizing matter in that soil, which will promote the growth of crops.

Thorough Pulverization Impracticable without Under-Draining.

Where there is an excess of water in the soil, the particles run together so readily, and set, like mortar, that the most thorough comminution of the soil, by any mechanical process, will be of but little advantage to a crop, when compared with the benefits arising from the same pulverization, when there is just moisture enough to cause such soils to pulverize easily, and remain so for a long time.

There is little or no danger of rendering a clayey soil too dry by thorough underdraining, as it will retain by absorption all the moisture that is required for the healthy growth of plants, even directly above the drains. Therefore, if the superabundant moisture is removed in under drains, and our heavy soils plowed well, as they ought to be, late in autumn, and then plowed again the following spring, the pulverization will be most thorough and complete; and the crops of grain will be increased many times, to double the amount which they have been accustomed to produce.

The *first* step then towards thorough pulverization of our heavy calcareous and aluminous soils, will be *under-draining*. The *second* operation will be fall-plowing, followed by plowing in the spring or summer, when there is just moisture enough in the soil to cause it to crumble well as it is plowed. And the *third* process will be, *manuring*.

All of these things combined will constitute a renovating system of agriculture; and will render the soil more productive from year to year, and at the same time will require less labor to cultivate a given crop.

Auburn, N. Y.

S. EDWARDS TODD.

GOOD APPLE TREES.—The *Maine Farmer* says: "Long experience has shown that an apple tree that stands near an old *wood-pile* always grows thriftily and bears an abundance of apples, as the fine slowly-decaying chip-dirt forms an excellent manure for apple and other fruit trees."



ALBANY, N. Y., NOVEMBER, 1862.

There is little left us to add to the condensed but comprehensive notes of our associate, Mr. THOMAS, published in this number, as to the character and merits of our State Fair.

Taken as a whole, it would have been creditable in any year of national prosperity. Its main features were the display of SHEEP, bearing witness to the increased attention now devoted by our Farmers to this class of Stock, and that of FRUITS and FLOWERS, affording evidence not only of an abundant year, but also of increased horticultural taste and knowledge. But the exhibition of HORSES was also one seldom if ever excelled: Gov. SEWARD'S Arabians, particularly the younger one which has for the past year been in charge of President CORNELL, attracted great attention; and the several classes of Matched Horses were worthy of particular note. And the CATTLE, although scarcely a fair representation of the best herds in the State, in the most prominent breeds, were out in fair numbers, and would compare favorably—with but few exceptions—with the Society's previous Exhibitions. And when we consider the immense contest upon which the thoughts and interest of the whole State are centered, and the uncertainties which in the minds of many appear to have prevented the customary preparation for such an occasion,—the Show of last week can hardly fail to prove a most welcome surprise, both to those who attended it, and to those who could not do so and who will here or elsewhere read the account of its really triumphant success.

For, superadded to the perplexities of the times, came the cloudy skies and almost continual rains of a regular "equinoctial." The weather record of something like forty years which had been consulted before appointing the time of the Fair, and which showed that the week decided on was the week of all others marked by the smallest rain-fall, proved false to us in the hour of our need, and the autumn storms, delayed during several weeks of most delightful weather, set in at last on Tuesday morning, with a north-east wind, which never shifted until just before the "clearing up shower" of Friday afternoon. Up to Wednesday night the receipts had been smaller than for the same period at any Fair for five years past, and there were no signs of improvement for the morrow. Thursday opened as gloomily as ever, with the chimney smoke sinking down over the eaves of the houses, instead of floating upward. But the number of those determined in any weather to be present, proved greater than we had dared to hope, and on that day the grounds must have been visited by more than thirty thousand people. The total receipts of the week were about \$11,000.

It is useless to discuss what "might have been," under the favorable auspices of more propitious skies. But every probability goes to show that cool, bright, pleasant weather would have filled the Society's treasury as it has never been filled before, unless at Buffalo in 1857, and Albany in 1859. In no other place, perhaps, could such a succession of forbidding days have been thus happily encountered; and this not so much, we are inclined to think,

from the general attendance of its citizens themselves, as from the populous and prosperous country with which Rochester is surrounded. The rain is a far more formidable obstacle to city people on such an occasion than to Farmers, and on this account, as well as owing to the distance from the city at which the grounds were located, we may safely put down a large part of the success of the Fair, pecuniarily, to the credit of the thousands who went thither from all parts of Monroe and the neighboring counties, rather than, as has sometimes been the case, to any unusual influx of visitors not expressly concerned in the cultivation of the soil.

We therefore regard the pecuniary success of the Fair as peculiarly a matter of credit to the farmers of the State.

Nothing was heard from Rev. Dr. BRECKINRIDGE of Kentucky, who was to deliver the Address, which affords conclusive proof that, if not captured by the rebel forces in that State, he has at least been cut off either from escape or communication beyond their lines.

DOVER POTATOES.—We are indebted to ALBION RANSOM, Esq., of this city, for a basket of Dover potatoes from his summer residence in Watervliet. They are of medium size, light red color, and nearly round, and of superior quality, coming from the oven or steamer nearly as dry and white as flour. Mr. Ransom informs us that he procured the seed at Newport, R. I., and that they yielded ninety-five barrels per acre last year.

HARVESTING BEANS.—A correspondent of the Rural New Yorker gives his mode of stacking and drying beans as follows:—"I use two stakes instead of one, seven or eight feet long and from one and a half to two inches through. Set them in the ground about two inches apart; put a withe on the stakes a foot or eighteen inches from the ground; take a small handful of beans, and lay the roots between the stakes, so far through that the tops will not reach the ground; then a bunch the other side in the same way. After this, the roots only should come between the stakes, and the roots of each bunch should be laid at right angles with those of the bunch preceding. When within a foot of the top of the stakes, put on another withe, drawing the stakes together to hug the roots closely, then fill up with beans, as before, to the top; then take two bunches of beans, tie the roots together and lay astride the top, and it is finished. Beans stacked in this way will never mold, as they often will when stacked around one stake. They should be stacked as soon as pulled, and always handled by the roots. When the stacks are thoroughly dry, they may be taken to the barn whole, pulling the stakes from the ground."

MANURING WHEAT.—In answer to the question, "What time ought soils for wheat to be manured?" the *Ohio Farmer* says: "It is usually best, if a large supply of manure is applied, to manure the previous crop. By this means it is thoroughly incorporated with the soil, and has time to become well decomposed. If it is quite rotten, it may be applied previously to the fall plowing; or, if it is thought best, apply it to the surface after the plowing. The wheat ought to have the advantage of the application during its fall growth. If the roots are well set before winter, there is little danger from winter-killing, and the plant, in spring, is ready to make a rapid growth. Heavy manuring of wheat at the time of sowing, with crude manures, is not advisable."

Farther testimony is given in our last foreign mails to the value of the Thorndale blood. "Another high—and what is better still, a thoroughly honest—average has been added to Short-Horn history," says the Mark Lane Express, in opening its account of the sale of Mr. Hales' herd at North Frith, Sept. 24th. Mr. H. was the purchaser last year, it will be remembered, of the "4th Duke of Thorndale," sent to England by SAML. THORNE, Esq., at 400 guineas (say \$2,000); and his wisdom in paying such a price has now been fully vindicated in the results of his own sale. The 4th Duke it seems, was started at 200 guineas, and ran up rapidly, between the bids of Capt. Gunter and Lord Exeter's agent, until he was finally knocked down to the latter at *four hundred and ten guineas*—in other words, Mr. Hales has had more than a year's use of the bull, and disposes of him now for \$50 more than he paid Mr. THORNE in 1861.

There were also sold at the same time several calves sired by "4th Duke," as follows:—

HEIFER CALVES.			
2d Kentish Gwynne,	calved Feb. 15, 1862,	for 41 guineas.	
Heiress,	do. June 4,	64 do.	
Perfection,	do. July 19,	35 do.	
Concord,	do. Sept. 20,	16 do.	
BULL CALVES.			
Athelwald,	calved May 12, 1862,	for.....	26 guineas.
Marmion,	do. July 17,	155 do.	
The Friar,	do. July 15,	26 do.	
Faustus,	do. July 23,	50 do.	
Clifford,	do. Aug. 16,	30 do.	

Here are nine calves, the average age of which on the day of sale, according to our computation, was only 2 months 25 days, sold at an average price only a small fraction less than 50 guineas each, or very nearly \$250.

There were 22 head of other females sold—including young and old, and all but four of them calved in 1860 or previously—which brought an average price per head of about 56 guineas—one of them, "Moss Rose," by Marmaduke out of Cambridge Rose 6th, going for 245 guineas. Excluding her the average for the other 21 is lower than that for the four young heifers sired by "4th Duke." Of the bulls, beside 4th Duke and his five calves, there were four sold at an average of 43 guineas each. But in referring to the prices at which the cows were sold, it should have been remarked that 14 of them had been served by "4th Duke," which would of course have added considerably to the prices they commanded.

THE REV. DR. BRECKENRIDGE of Kentucky, who was to have delivered the Address at our State Fair, but from whom nothing was heard, and who, it was feared, had been carried off by the rebels, is now said to be safe at or near his own home in Danville, the rebels who have possession of that part of Kentucky having protected him from harm.

A NEW GRAPE.—A correspondent in Columbia county furnishes an account of a new seedling from the Rebecca—which he says bore *forty bunches* of excellent blue grapes, the second year, and now grows with extraordinary vigor and bears abundantly, the fruit possessing qualities of the highest character. We can only repeat in relation to this grape, what we have had to do in the case of other fruits, claimed to be new and of great merit, but which we have never seen—that the rules of Pomology require at least two years careful examination of any new fruit, by *competent pomologists*, before it is worthy of recommendation—to which we may add that several years more, with experience in different localities, are generally required to test its value, such experience often quite re-

versing a fine reputation. In no instance can we recommend a new sort on the simple statement of a correspondent, who may have been imposed upon by another, as we have recently known in some striking instances. We do not, however, pronounce this new grape an imposition, only we want more time, experience, and personal evidence.

NEW WORK.—Mr. J. F. WOLFINGER of Milton, Penn., who has recently delivered a course of lectures on agricultural matters at the Pennsylvania Ag. College, to the great gratification of the students, as we learn from one of them, proposes to issue a work entitled "The Science or Philosophy of Farming," in an octavo volume of 700 pages. Dr. PUGH, in a note which has been sent us, says that from his examination of the manuscript and from hearing the lectures above alluded to, he is prepared to say that "Mr. W. has succeeded in bringing together, into compact form, a very large amount of valuable practical and scientific matter in relation to the subject of Agriculture. It is treated of in a manner adapted to the education of the farmer and practical man, and as such recommends itself to all those devoted to Agricultural pursuits."

We regret to learn that our old friend, H. P. BYRAM, for many years editor of the "Valley Farmer," and who has for some years past spent his summers at Sag-Harbor, L. I., was so severely wounded by the bursting of one of Gen. James' projectiles during an experimental trial of them at Sag-Harbor last week, as to render the amputation of one of his legs necessary. At the same time Gen. James was so severely wounded as to cause his death the next morning.

LARGE PEAR.—We have received from the Rev. Dr. WELCH, a Duchesse d'Angouleme Pear, grown on his fine place at Newtonville, which weighs one pound and three ounces.

MAINE POMOLOGICAL AND HORT. SOCIETY.—The Annual Meeting of this Society was held in Augusta, Oct. 7, when the following officers were elected: President, C. Spaulding; Vice Presidents, one from each county in the State, as follows: R. Martin, J. P. Perley, R. Eaton, J. C. Weston, John Rogers, G. H. Freeman, S. F. Dike, S. W. Colburn, W. D. Dana, Sidney Perham, C. Chamberlain, Horace McKenny, S. Wasson, H. Russ, Wm. Wilson; Recording Secretary, Samuel Titcomb; Corresponding Secretary, J. M. Meserve; Trustees, Warren Percival, N. Foster, E. Rowell; Committee on Fruits, S. L. Goodale, F. Wingate, D. A. Fairbanks, Alden Rice, Albert Noyes. The display of fruit was small in extent, but of superior quality.

We learn from JOHN HAROLD, Esq., Secretary and Treasurer of the Queens Co. Ag. Society, that their late Fair was a decided success, the receipts being about \$4000, which would be good in times of peace, but eminently so in war. Nearly all the Fruits and vegetables were donated to the Soldiers' Hospital in Lexington Avenue, N. Y., and were joyfully received.

HIGH PRICES FOR SHEEP.—The Middlebury (Vt.) Register informs us that S. W. Remelee of New Haven, recently sold to H. Hemenway of Whitewater, Wis., his stock buck for \$500. Also that Mr. John L. Buttolph of Middlebury, sold to Mr. Sweet of Hoosick, N. Y., a yearling buck for three hundred dollars.

ENGRAVING OF THE FAIR GROUNDS.—We publish on page 253, a sketch of the State Fair Grounds at Rochester, engraved for the *Rural New-Yorker*, for the use of which we are indebted to brother MOORE. If it is anywhere deficient, it is in not showing the presence of a *larger crowd*; but it gives a tolerably correct idea of the location of the buildings as already described in our columns.

Mr. MOORE has the following just remarks upon the success of the Fair, all of which we fully endorse:—

THE STATE FAIR.—The sun was visible but a few hours from Tuesday morning until the close of the Fair on Friday, and more or less rain fell on every day of the exhibition. And yet the Fair was a grand success—an unparalleled triumph in all respects, considering the unfavorable weather and condition of the country. The result is the more gratifying from the fact that many had predicted a failure, even with fair weather, and had seriously urged a postponement. Under the circumstances the Agricultural Society and people of the Empire State may well send cordial greeting to brother Producers and Unionists of the Loyal States, and also cite Secessionists everywhere to the result—as evidence that New-York can not only do its full share towards suppressing rebellion, but also exhibit undiminished zeal and energy in maintaining and advancing her home interests. Had the weather been favorable we doubt not the Fair would have proved the most successful *in every respect*, ever held in the State—and that is equivalent to saying in the Union.

NEW-YORK COUNTY FAIRS.—In Warren county, the Fair is declared to have been a “success,” the attendance being large and the show respectable.—The Montgomery Fair was held at Fonda, and the interest in it was less than on former occasions.—The Fair of the Susquehanna Valley Society at Unadilla, was well attended, the exhibition good, and the officers and public well satisfied.—In Orleans county the Fair is said to have been one of the best ever held in the county.—In Queens all departments of the exhibition were well filled, and the result highly gratifying to all concerned.—In Ontario, the exhibition proved more successful than was anticipated, the show of stock of all kinds, though not as large as on some previous occasions, being of superior quality. The receipts were about \$850.—In Essex the entries were less numerous than in former years, though the quality of the articles was deemed superior to any former occasion.—In Delaware, the Fair seems to have been well attended, and to been about as satisfactory as usual.—The County Fair in Cattaraugus, as we were informed by a friend, not only paid all its premiums and expenses, but also reduced considerably the debt of the Society incurred in previous years.—Another friend tells us that the same is true of the Allegany County Fair.—The Dutchess County Society appear to have met with the usual degree of success, judging from the list of prizes awarded.

DEATHS.—Mr. WILLIAM REID, the well-known nurseryman of Elizabeth, N. J., died at his residence in that city, after a brief illness on the 3d inst., aged 58 years. Mr. Reid had an extensive acquaintance among horticulturists throughout the country, by whom he was highly esteemed for his genial temper, intelligence and integrity, and who will deeply sympathize with his afflicted family.

The Hon. ADAM FERGUSON of Canada West, alike distinguished as an agriculturist and politician, died recently of apoplexy. Mr. F. was formerly a regular attendant at our State Fairs, and was held in high esteem by all who made his acquaintance.

Inquiries and Answers.

PLANTING MAPLE SEED.—I have a question to ask—when is the proper time to plant maple seed? KANSAS. [Plant in autumn on light dry soil, and cover the surface with leaves, moss or muck, till spring—or keep the seed in slightly moist peat through winter and plant in spring. They will grow best treated in this way, but usually many will grow planted in spring without this care.]

PEAR SEED.—What quantity of pear seed is necessary to plant an acre—the rows two and a half feet apart, and the seed economically used? The soil is a deep rich loam—the condition and preparation as good as can be made. Would fall or spring planting be preferable? If the latter, how should the seed be prepared, and at what time put into the ground? I. N. S. [There would be nearly half a million seed in a bushel—an acre would have about 1,000 rods of rows—the seed, if all good, might be sown at the rate of 20 to a foot (and thicker, as a portion is defective) or 3 or 400 per rod—hence it will be seen that a bushel would about plant an acre, if the seed were all good and grew well. But in common practice, many seed are imperfect or defective; many do not grow; and many plants dwindle and perish after coming up—two or three bushels, therefore, would not be too much for good seed. For bad ones, we can make no estimate.]

ROOT CELLARS ABOVE GROUND.—I notice all kinds of plans for houses, barns, etc., but none for *root houses*, or cellars above ground. A reliable cheap plan, safe against any cold winters, would be desirable in this region, and probably many parts of the west. We have very few hills and the soil in this locality is of such a nature that unless a cellar is drained, it is sure to have water in it in spring. J. H. O. Wisconsin. [Root cellars may be easily made above ground, that will afford sufficient protection to roots through winter—the requisites being thick, non-conducting walls and roof. These walls may be made of different materials, according to circumstances. When lumber is abundant, posts may be set, enclosing the space desired for the roots, and another parallel row to form a double wall. If straw or forest leaves are used for filling in, the space should be two feet—if sawdust or chaff is used, one foot will do. Board up these posts, and ram in dry straw, (if chopped it will be better,) dry forest leaves, &c. A sloping or double roof should be made on rafters with boards, and second rafters placed a foot and a half or two feet above. Then fill in between them with straw or leaves. If chaff is used, the space need not be so great as for straw; and if the leaves are dry and smoothly placed, a foot thickness will do, as they form layers or strata, with thin enclosed plates of air, and are very good non-conductors of heat (or cold.) Then cover the whole with a board roof, to throw off the water, and the building is complete. A door, made double and similarly stuffed, admits the roots. When lumber is scarce, build a double log structure, and fill in the space as before—or if the stuffing should be scarce, build a single wall, and bank up heavily with turf or earth. The roof may be made of poles instead of boards, laid closely enough to hold the leaves or straw; but the water soaking in, will soon rot it, and it must be renewed. The bottom should be made of poles, a foot from the ground, so as to admit ventilation from below, to keep the roots dry, allow air to circulate among them, and to allow the soil from them to fall through between them. There are many modifications that might be made; but the main essentials are to be preserved, viz., to allow the warmth to pass up from the earth below, and to shut out cold from the sides, but more especially from the roof.]

SOILING CATTLE.—I should like to see published in your valuable paper, a treatise on soiling cattle—the kind of crops used, time to sow, the proper succession, in order to have at all times a plentiful supply of green food—the number of cattle kept upon a certain quantity of land, the manner of feeding, &c., &c. I think a communication from persons familiar with the practice would be acceptable to many.

Applebachville, Bucks Co., Pa. H. C. D.
BEES.—I should feel much indebted, if through the medium of your valuable journal, I could be informed as to the best mode of smothering bees. The way in which I did it formerly, was to dig a small hole in the ground, large enough to place a tin plate, upon which I put a piece of tinder sprinkled over with some dry sulphur, set fire to it, and then placed the hive over it. But the difficulty about this operation, is the want of ventilation, causing the fire to quench before the bees are stupefied. A SUBSCRIBER. *New Brunswick*. [By putting sticks under the corners of the hive so as to raise it an inch or so from the ground, the difficulty would probably be obviated.]

CLEAN CELLARS.

If we were asked, which should be the finest apartment in the house, we should probably answer, "Not the parlor, not the drawing room, but the cellar." There are two reasons for this answer. First, a bad, dirty cellar appears to combine the idea of all that is repulsive—damp, offensive, musty, putrid air—rotten apples, rotten cabbages, rotten potatoes, rotten boards—the effluvia creeping through every open window and open door, and through the cracks of every closed window and closed door, into all parts of the house—into the kitchen, into parlor and dining room, into sleeping apartments,—and laying the foundation of sickness and fevers. Secondly, a neat, well lighted, marble-floored, whitewashed cellar, combines a good deal that is pleasant. One room may have in it a supply of sweet butter and milk, and in another excellent apples and delicious melting pears; the food that is placed on every table is known to come from this model cellar, where every thing is pure and clean.

Does some one now say, "I can't afford to make such an expensive cellar!" We reply it need not be expensive. The walls are already built—give them a smooth neat plastering, and then a handsome whitewashing. Have new windows put in if necessary, and keep them washed, bright and clean, with an iron-rod grate in the window frame, or wire netting, to exclude intruders when the windows are open. Cover the floor with water-lime cement—first thickly and coarsely with a grout made of water-lime and coarse gravel, and then with a smooth polished finish of water-lime and clean washed sand. The whole cost of the plastering of the walls, the whitewashing of the same, the new windows, and of the marble floor, need not be forty dollars for a moderate sized farm-house. Save this sum by reducing the use of tea, sugar, coffee, omitting the plating on that new harness and carriage, and discarding all tobacco. If there should be any surplus, get a neat set of apple shelves made, standing on scantling legs, one shelf above another, so that one can pass all around them, and have them all neatly painted; and also procure a set of potato boxes or bins, with covers to exclude light, and have these all planed and painted.

It is a good time of year, now, to get the cement floor made, and whether it is made or not, it is absolutely essential that every dirty cellar be now thoroughly cleaned out before storing any of the new crop of fruits and vegetables; and in cleaning out, if the work is not thoroughly done, it may be best to sprinkle over it occasionally until it is well purified, a pound or two of chloride of lime, as a smell-destroyer and disinfectant.

PRESERVING TOOLS FROM RUST.

No farm tool or implement, any part of which is of rubbed or polished iron, should be put away without first thoroughly cleaning. It will not only last longer when kept clean and bright, but will be more convenient and efficient in using. A hoe or a spade cast aside covered with earth, will become rusted, and be scarcely fit to use. The mould-board of a plow should be always bright. To leave one in the furrow, exposed to the weather, and where it will inevitably become covered with a thick coat of rust, is a miserable practice. But in damp climates or damp seasons of the year bright tools will sometimes become rusted after housing. In such cases a coating of some suitable substance should be rubbed over them, if laid aside for any length of time. A good and cheap coating for this purpose is grafting wax, softened by an admixture of an equal part or more of lard. Beeswax is good, but rather too hard and too expensive. Add to it four times as much lard and twice as much rosin, and the mixture will be a good one. Or, three parts of lard and one of rosin, will answer a good purpose. The lard should of course be fresh, any portion of salt attracting moisture. The mixture should be melted; and if the tool could be heated as hot as boiling water,

all the better. Much hotter than this the temper might be injured if of steel. Put on as thin a coat as practicable to prevent waste, and rub with a cloth. All polished metal, when examined with a microscope, is found to be covered with scratches and furrows, and it is these furrows that retain the mixture and preserve the coating securely until used again.

PICKLING ONIONS, &c.

Please give me a recipe for pickling onions and red cabbage, and oblige A SUBSCRIBER. Wash. Co., Ill.

Not knowing how to make pickles, we applied to a notable housewife, who says, "for pickling red cabbage, cut it up and pour over it boiling hot vinegar which has been seasoned with salt and pepper." On inquiring what proportion of vinegar, and of salt and pepper, she replied, "enough vinegar to cover it, and any woman will know how much salt and pepper will be enough to season it"—from which we infer that the quantity must be *guessed at*. To pickle onions, Beecher says, "peel, and boil in milk and water ten minutes, drain off the milk and water, and pour scalding spiced vinegar upon them."

SIX HUNDRED THOUSAND MALE OR FEMALE AGENTS TO SELL LLOYD'S NEW STEEL PLATE COUNTY COLORED MAP OF THE UNITED STATES, CANADAS & NEW-BRUNSWICK.

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NAVY DEPARTMENT, WASHINGTON, Sept. 17, 1862.

J. T. LLOYD—Sir: Send me your Map of the Mississippi River, with price per hundred copies. Rear-Admiral Charles H. Davis, commanding the Mississippi squadron, is authorized to purchase as many as are required for the use of that squadron.

Oct. 9—w3t—m3t. GIDEON WELLES, Secretary of the Navy.

THE OPORTO.

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Oct. 9—w2t—mlt.

1863 THE ILLUSTRATED 1863 ANNUAL REGISTER OF RURAL AFFAIRS.

NO. IX---FOR 1863.

The publication of the NINTH NUMBER of THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS, for 1863, has been somewhat detained for the completion of a very full and valuable Treatise on Entomology, including those Insects about which there is now the greatest desire for general information, from the accomplished pen of the State Entomologist, Dr. ASA FITCH. We are happy to say that this article is now in the hands of the printers, and that the ANNUAL REGISTER will be ready for issue about the 20th of October. Mean-time orders will be received and registered as usual, and at the usual rates:

Single Copies Twenty-Five Cents.

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Among other chapters the ANNUAL REGISTER contains the following, largely illustrated in several instances with new and expensive Engravings:

I. FARMING MADE PROFITABLE—FIVE ENGRAVINGS.

1. Instances of Profitable Farming.
2. Estimate for a Farm of One Hundred Acres.
3. Causes of Disaster.
4. Remedies and Requisites.

II. MANUFACTURE OF MAPLE SUGAR—SEVEN ENGRAVINGS.

1. Sap Boilers.
2. Evaporators.
3. Processes of Collecting and Boiling the Sap.

III. BEST WAY TO BUILD A HOUSE—FORTY-EIGHT ENGRAVINGS.

1. Introduction.
2. Carpenter's and Mason's Specifications.
3. Illustrated Glossary of Architectural Terms.

IV. THE DAIRY—SEVEN ENGRAVINGS.

1. Hints on Butter Making.
2. Rules for Making Cheese.
3. Rules for Management of Cows.

V. RURAL ECONOMY—SIX ENGRAVINGS.

1. Suggestions for Winter.
2. Screwing on Nuts—Leaky Roofs—Horse Fork—Painting.
3. To Avoid Running out of Hay.
4. Highways—Lightning Rods—Osier for Bands—Tape Line in the Cornfield.
5. Forest Leaves for Litter—Good Smoke House—Corn Marker—Scalding Tub—Harvesting Peas.
6. Chain Pumps—Irrigation—Draining—Clean Land.

VI. FRUITS AND FRUIT CULTURE—FOURTEEN ENGRAVINGS.

1. Autumn and Spring Transplanting.
2. Dwarf Apples.
3. Rules for Tree Planters.
4. Systematic Formation of Pyramids.
5. Two Native Plums.
6. Sending Buds by Mail.
7. Shortening in the Peach.
8. Construction of a Cheap Grapery.
9. Gooseberries.
10. Time for Pruning Orchards.
11. Fruit versus Malaria.
12. Dwarf Cherries.
13. Strawberries—Quick Returns.
14. Pruning the Quince.
15. Select Lists of Apples.
16. Labels for Fruit Trees.
17. Select List of Grapes.

VII. INSECTS BY DR. ASA FITCH—THIRTY-FOUR ENGRAVINGS.

1. Definitions of Terms, &c.
2. Descriptions of Orders.
3. Insects which Injure Fruit Trees.
4. Insects which Injure Grain Crops.
5. Insects Injurious to Gardens.

*. To show how full and valuable an article this is, it may be mentioned that Six Insects injurious to Fruit; Thirteen injurious to Grain, and Six injurious to Gardens, are described with complete and new Illustrations, engraved expressly for this article in the ANNUAL REGISTER. It forms, in point of fact, the readiest HAND BOOK OF ENTOMOLOGY for the practical use of the farmer and gardener, we have ever seen.

VIII. NOTES ON NEW AND DESIRABLE FLOWERS—TEN ENGRAVINGS.

1. Double Zinnia.
2. Japan Pinks.
3. Bidens Atro sanguinea.

4. Cnpeha Limapani—The Striped French Marigold.
5. Dwarf Nasturtium—New Sweet Williams.
6. Dwarf Convolvulus—Oenothera Camarkiana—Splendid Gazania.
7. Lychnis Haageana—Whittavia Grandiflora.
8. Calceopsis Cardaminifolia—The Gaillardias.

*. This article was written for the ANNUAL REGISTER with Drawings and Engravings expressly prepared to accompany it, and not before published in this country, by JAMES VICK, Esq., of Rochester.

IX. ADVERTISEMENTS.

This, preceded by the usual Calendar pages and Astronomical Calculations, forms a book which is certainly cheap at its retail price, and the Publishers, with a view of rendering its circulation still wider and larger than that of any previous Number, are prepared, as above intimated, to offer the most liberal Terms for its introduction in quantities, either to Agents, Agricultural Societies, Nurserymen, Dealers in Implements and Seeds, or any others who take an interest in the dissemination of useful reading, and in the promotion of Rural Improvement.

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October 1, 1862.

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Oct. 16—w8tm2t.

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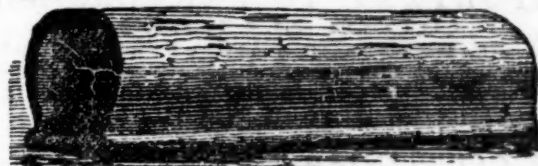
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